

Priority: May 10, 1999

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 13:57:35 ; Search time 122.5 Seconds  
(without alignments)  
56.830 Million cell updates/sec

Title: US-10-009-317A-32

Perfect score: 116  
Sequence: 1 GFCRCICTRGFCRCICTR 18

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A\_Geneseq\_16Dec04:\*

- 1: Geneseqp1980s:\*
- 2: Geneseqp1990s:\*
- 3: Geneseqp2000s:\*
- 4: Geneseqp2001s:\*
- 5: Geneseqp2002s:\*
- 6: Geneseqp2003as:\*
- 7: Geneseqp2003bs:\*
- 8: Geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	116	100.0	18	4	AAB35046
2	116	100.0	18	5	ABP53295
3	116	100.0	18	8	ADO35230
4	111	95.7	18	8	ADO35240
5	103	88.8	18	5	ABP53299
6	101	87.1	18	4	AAB35030
7	101	87.1	18	5	ABP53297
8	101	87.1	18	6	AAE33866
9	101	87.1	18	7	ADN95202
10	101	87.1	18	8	ADP33357
11	101	87.1	18	8	ADG70012
12	101	87.1	18	8	ADO35229
13	101	87.1	18	8	ADO35238
14	101	87.1	18	8	ADO35239
15	101	87.1	18	8	ADO35250
16	101	87.1	18	8	ADO35263
17	100	86.2	18	8	ADO35255
18	93	80.2	18	6	AAE33805
19	93	80.2	18	6	AAE33806
20	93	80.2	18	8	ADN08180
21	93	80.2	18	8	ADN08181
22	91	78.4	18	4	AAB35037
23	90	77.6	18	5	ABP53294
24	90	77.6	18	6	AAE33801
25	90	77.6	18	6	AAE33863

26	90	77.6	18	8	ADN08176	Adn08176 Human ret
27	89	76.7	18	8	ADO35249	Ado35249 Rhesus th
28	88	75.9	18	5	ABP53298	Abp53298 Anti-vira
29	87	75.0	18	5	AAU91017	Aau91017 Transplan
30	87	75.0	18	6	AAE33864	Aae33864 Enantio-R
31	87	75.0	18	6	AAE33802	Aae33802 R9K retro
32	87	75.0	18	8	ADN08177	Adn08177 Human ret
33	86	74.1	18	4	AAB35047	Abp35047 Theta def
34	86	74.1	18	5	ABP53296	Abp53296 Anti-vira
35	86	74.1	18	8	ADO35231	Ado35231 Rhesus th
36	86	74.1	18	8	ADO35242	Ado35242 Rhesus th
37	86	74.1	18	8	ADO35241	Ado35241 Rhesus th
38	85	73.3	18	6	AAE33804	Aae33804 ILSY retr
39	85	73.3	18	6	AAE33803	Aae33803 I6Y retro
40	85	73.3	18	8	ADO35256	Ado35256 Rhesus th
41	85	73.3	18	8	ADN08179	Adn08179 Human ret
42	85	73.3	18	8	ADN08178	Adn08178 Human ret
43	83	71.6	18	6	AAE33807	Aae33807 R4Y retro
44	83	71.6	18	8	ADO35246	Ado35246 Rhesus th
45	83	71.6	18	8	ADO35245	Ado35245 Rhesus th

## ALIGNMENTS

RESULT 1  
AAB35046  
ID AAB35046 standard; peptide; 18 AA.

XX AAB35046;

XX 27-MAR-2001 (first entry)

XX Theta defensin SEQ ID NO: 30.

XX Theta defensin; antimicrobial; cyclic; bacterium; fungus; protozoan;  
viral; helminth; disinfectant; food preservative; analogue.

XX Unidentified.

XX WO200068265-A1.

XX 16-NOV-2000.

XX 10-MAY-2000; 2000WO-US012842.

XX 10-MAY-1999; 99US-00309487.

XX (REGC ) UNIV CALIFORNIA.

XX Selsted ME, Tang Y, Yuan J, Ouellette AJ;

XX WPI; 2001-031853/04.

XX Novel theta defensin peptide with antimicrobial activity against  
bacteria, yeast, fungi, protozoa and viruses.

XX Claim 15; Fig 16; 110pp; English.

XX The present invention provides theta defensin peptides and analogues  
which have antimicrobial activity. They can be used in the treatment of  
bacterial, viral, fungal, protozoan and helminthic infections, in  
disinfectants and as food preservatives

XX Sequence 18 AA;

Query Match 100.0%; Score 116; DB 4; Length 18;

Best Local Similarity 100.0%; Pred. No. 8.5e-06;

Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GFCRCICTRGFCRCICTR 18

Db 1 GFCRCICTRGFCRCICTR 18

current applicant  
priority document

RESULT 2  
ID ABP53295 standard; peptide; 18 AA.  
XX  
AC ABP53295;  
XX  
DT 13-NOV-2002 (first entry)  
XX  
DE Anti-viral theta defensin peptide RTD-2 SEQ ID NO:28.  
XX  
KW Anti-viral; viral infection; theta-defensin; lipid environment;  
KW amphipathic alpha-helical structure; virucide; anti-HIV; immunisation;  
KW viral growth inhibitor; viral proliferation inhibitor.  
XX  
OS Macaca mulatta.  
OS Synthetic.  
XX  
FN WO200260468-A2.  
XX  
PD 08-AUG-2002.  
XX  
EF 29-JAN-2002; 2002WO-US002435.  
XX  
PR 30-JAN-2001; 2001US-0265270P.  
PR 01-AUG-2001; 2001US-0309368P.  
XX  
PA (IOWA ) UNIV IOWA RES FOUND.  
XX  
FI Maury W, Stapleton J, Stinski M, Roller R, Mcray PB, Tack B;  
XX WPI; 2002-674815/72.  
XX  
FT New method of using a first anti-viral peptide comprising a Theta-  
FT defensin peptide in an amphipathic Alpha-helical structure in a lipid  
PT environment for reducing the infectivity of a virus.  
XX  
PS Disclosure; Page 10; 65pp; English.  
XX  
CC The present invention describes a method (M1) of using a first anti-viral  
CC peptide (I) comprising a theta-defensin peptide in an amphipathic alpha-  
CC helical structure in a lipid environment for reducing the infectivity of  
CC a virus. (I) can have virucide and anti-HIV activities, and can be used  
CC to reduce virus growth, infectivity burden, shed, and development of anti  
CC -viral resistance. (I) can be used for inhibiting the growth and  
CC proliferation of a virus and so can be used for; (a) protecting or  
CC treating subject from a viral infection, preventing recurrent viral  
CC infection in a subject harbouring a latent virus, controlling virus  
CC spread within a virally-infected subject (VS), reducing viral burden in a  
CC VS, reducing virus shed from a VS, reducing percentage of VS in a  
CC population regardless of viral infection status, or inducing latency in a  
CC VS; (b) reducing the infectivity of a virus; and (c) rendering virus-  
CC contaminated tissue or fluid sample safe for use, or reducing the number  
CC of infectious virus particles in a population of viruses. (M1) is useful  
CC for reducing the infectivity of a virus in sheep, cattle, horses, swine,  
CC cats, fowl and humans e.g. an enveloped virus infecting humans such as  
CC human immunodeficiency virus (HIV). Preferably, the anti-viral peptide is  
CC administered to a patient who is immunosuppressed or to a subject who is  
CC not infected with the virus, where the first anti-viral peptide is  
CC administered prior to or subsequent to the virus contacting the subject.  
CC The anti-viral peptide is most preferably administered to a subject who  
CC is chronically, latently or acutely infected with the virus. The present  
CC sequence represents a rhesus monkey theta defensin anti-viral peptide,  
CC which is given in the exemplification of the present invention  
XX  
SQ Sequence 18 AA;

Query Match 100.0%; Score 116; DB 5; Length 18;  
Best Local Similarity 100.0%; Pred. No. 8.5e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18

Db 1 GFCRCICTRGFCRCICTR 18  
RESULT 3  
ADO35230  
ID ADO35230 standard; peptide; 18 AA.  
XX  
AC ADO35230;  
XX  
DT 15-JUL-2004 (first entry)  
XX  
DE Rhesus theta defensin peptide, RTD-2.  
XX  
KW Monkey; Rhesus theta defensin; RTD-2; antimicrobial peptide; cyclic;  
KW antimicrobial; antiinflammatory; antibacterial; virucide; fungicide;  
KW food; contact lens solution; eye wash solution; inflammatory response;  
KW microbicidal inhibition; microstatic growth inhibition; disinfectant;  
KW food preservative; bacterial infection; viral infection;  
KW fungal infection; haemolytic activity.  
XX  
OS Macaca mulatta.  
XX  
FH Key Location/Qualifiers  
FT Modified-site 1. .18  
FT /note= "The peptide is cyclised by a covalent link  
FT between these two residues"  
FT Disulfide-bond 3. .16  
FT Disulfide-bond 5. .14  
FT Disulfide-bond 7. .12  
XX  
FN US2004014669-A1.  
XX  
PD 22-JAN-2004.  
XX  
PF 30-APR-2003; 2003US-00427715.  
XX  
PR 30-APR-2002; 2002US-0377071P.  
XX  
PA (REGC ) UNIV CALIFORNIA.  
XX  
FI Selsted ME, Tran DQ;  
XX  
DR WPI; 2004-167945/16.  
XX  
PT Novel theta defensin analog useful for reducing or inhibiting growth or  
PT survival of a microorganism in an environment such as food or food  
PT product, contact lens solution, or eye wash solution, an inanimate  
XX object.  
XX  
PS Example 1; SEQ ID NO 2; 46pp; English.  
XX  
CC The invention relates to a theta defensin analogue defined by formulae  
CC detailed in the claims or appearing as ADO35239-ADO35257. The theta  
CC defensin analogue is useful for reducing or inhibiting growth or survival  
CC of a microorganism in an environment capable of sustaining the growth or  
CC survival of the microorganism and is useful for reducing or inhibiting  
CC growth or survival of a microorganism in an environment such as food or  
CC food product, a solution (e.g., contact lens solution, or eye wash  
CC solution), an inanimate object comprising surface, or a mammal. The  
CC peptides are also useful for decreasing inflammatory response and for  
CC microbicidal inhibition of survival of microorganism as well as  
CC therapeutic agents, disinfectants, food preservatives, or medicaments.  
CC The peptides are also useful for treating a patient suffering from  
CC bacterial, viral, fungal or other infection. The theta defensins have  
CC high antimicrobial activity and low haemolytic activity. The present  
CC sequence represents the rhesus monkey wild-type theta defensin RTD-2.  
XX  
SQ Sequence 18 AA;

Query Match 100.0%; Score 116; DB 8; Length 18;  
Best Local Similarity 100.0%; Pred. No. 8.5e-06;

*DR - 15.16*

Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GFCRCICTRGFCICICTR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GFCRCICTRGFCICICTR 18

## RESULT 4

ID ADO35240 standard; peptide; 18 AA.

XX ADO35240;

DT 15-JUL-2004 (first entry)

XX Rhesus theta defensin analogue peptide arTD-2-OH.

XX Monkey; Rhesus theta defensin; RVD; antimicrobial peptide; antimicrobial;  
KW antiinflammatory; antibacterial; virucide; fungicide; food;  
KW contact lens solution; eye wash solution; inflammatory response;  
KW microbicidal inhibition; microbiostatic growth inhibition; disinfectant;  
KW food preservative; bacterial infection; viral infection;  
KW fungal infection; haemolytic activity.

XX Macaca mulatta.

OS Synthetic.

XX Key Location/Qualifiers

FT Disulfide-bond 3..16

FT Disulfide-bond 5..14

FT Disulfide-bond 7..12

FT Modified-site 18

FT /note= "Hydroxylated"

XX US2004014669-A1.

XX 22-JAN-2004.

XX 30-APR-2003; 2003US-00427715.

XX 30-APR-2002; 2002US-0377071P.

XX (REGC ) UNIV CALIFORNIA.

XX Selected ME, Tran DQ;

XX WPI; 2004-167945/16.

XX Novel theta defensin analog useful for reducing or inhibiting growth or  
PT survival of a microorganism in an environment such as food or food  
PT product, contact lens solution, or eye wash solution, an inanimate  
PT object.

XX Claim 1; SEQ ID NO 14; 46pp; English.

XX The invention relates to a theta defensin analogue defined by formulae  
CC detailed in the claims or appearing as ADO35239-ADO35257. The theta  
CC defensin analogue is useful for reducing or inhibiting growth or survival  
CC of a microorganism in an environment capable of sustaining the growth or  
CC survival of the microorganism and is useful for reducing or inhibiting  
CC growth or survival of a microorganism in an environment such as food or  
CC food product, a solution (e.g., contact lens solution, or eye wash  
CC solution), an inanimate object comprising surface, or a mammal. The  
CC peptides are also useful for decreasing inflammatory response and for  
CC microbicidal inhibition of survival of microorganism as well as  
CC microbiostatic inhibition of growth. Thus the peptides are useful as  
CC therapeutic agents, disinfectants, food preservatives, or medicaments.  
CC The peptides are also useful for treating a patient suffering from  
CC bacterial, viral, fungal or other infection. The theta defensins have  
CC high antimicrobial activity and low haemolytic activity. The present  
CC sequence represents a Rhesus theta defensin analogue peptide.

XX Sequence 18 AA;

Query Match 95.7%; Score 111; DB 8; Length 18;  
Beat Local Similarity 94.4%; Pred. No. 2.8e-05;  
Matches 17; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GFCRCICTRGFCICICTR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GFCRCICTRGFCICICTR 18

## RESULT 5

ID ABP53299 standard; peptide; 18 AA.

XX ABP53299;

DT 13-NOV-2002 (first entry)

XX Anti-viral chimeric theta defensin peptide H/RTD-2 SEQ ID NO:32.

XX Anti-viral; viral infection; theta-defensin; lipid environment;  
KW amphipathic alpha-helical structure; virucide; anti-HIV; immunisation;  
KW viral growth inhibitor; viral proliferation inhibitor.

XX Homo sapiens.

OS Macaca mulatta.

OS Synthetic.

XX WO200260468-A2.

XX 08-AUG-2002.

XX 29-JAN-2002; 2002WO-US002435.

XX 30-JAN-2001; 2001US-0265270P.

XX 01-AUG-2001; 2001US-030368P.

XX (IOWA ) UNIV IOWA RES FOUND.

XX Maury W, Stapleton J, Stinski M, Rollier R, Mccray PB, Tack B;

XX WPI; 2002-674815/72;

XX New method of using a first anti-viral peptide comprising a Theta-  
PT defensin peptide in an amphipathic Alpha-helical structure in a lipid  
PT environment for reducing the infectivity of a virus.

XX Disclosure; Page 10; 65pp; English.

XX The present invention describes a method (M1) of using a first anti-viral  
CC peptide (I) comprising a theta-defensin peptide in an amphipathic alpha-  
CC helical structure in a lipid environment for reducing the infectivity of  
CC a virus. (I) can have virucide and anti-HIV activities, and can be used  
CC to reduce virus growth, infectivity burden, shed, and development of anti-  
CC viral resistance. (I) can be used for inhibiting the growth and  
CC proliferation of a virus and so can be used for; (a) protecting or  
CC treating subject from a viral infection, preventing recurrent viral  
CC infection in a subject harbouring a latent virus, controlling virus  
CC spread within a virally-infected subject (VS), reducing viral burden in a  
CC VS, reducing virus shed from a VS, reducing percentage of VS in a  
CC population regardless of viral infection status, or inducing latency in a  
CC VS; (b) reducing the infectivity of a virus; and (c) rendering virus-  
CC contaminated tissue or fluid sample safe for use, or reducing the number  
CC of infectious virus particles in a population of viruses. (M1) is useful  
CC for reducing the infectivity of a virus in sheep, cattle, horses, swine,  
CC cats, fowl and humans e.g. an enveloped virus infecting humans such as  
CC human immunodeficiency virus (HIV). Preferably, the anti-viral peptide is  
CC administered to a patient who is immunosuppressed or to a subject who is  
CC not infected with the virus, where the first anti-viral peptide is  
CC administered prior to or subsequent to the virus contacting the subject.  
CC The anti-viral peptide is most preferably administered to a subject who  
CC is chronically, latently or acutely infected with the virus. The present  
CC sequence represents a chimeric human/rhesus monkey theta defensin anti-



```

RESULT 8
AAE33866
ID AAE33866 standard; peptide; 18 AA.
XX
AC AAE33866;
XX
DT 16-APR-2003 (first entry)
XX
DE Macaca mulatta RTD1 peptide.
XX
KW Retrocyclin; infection; sexually transmitted disease; gene therapy; HIV;
KW human immunodeficiency virus; bacterial vaginosis; ophthalmic infection;
KW antibiotic modelling; antimicrobial; rhesus monkey; theta defensin 1A;
KW RTD1.
XX
OS Macaca mulatta.
XX
PN WO200285401-A1.
XX
PD 31-OCT-2002.
XX
PF 18-APR-2002; 2002WO-US012353.
XX
PR 18-APR-2001; 2001US-0284855P.
XX
PA (REGC ) UNIV CALIFORNIA.
XX
PI Lehrer RI, Waring AJ, Cole AM, Hong TB;
XX
XX WPI; 2003-103387/09.
XX
XX New isolated retrocyclin peptide, useful for preventing retroviral
XX infections in cells susceptible to bacterial or viral infections or
XX treating patients having the infections, such as HIV, sexually
XX transmitted diseases, vaginosis.
XX
XX Example 1; Fig 3C; 72pp; English.
XX
XX The invention relates to novel retrocyclin peptides. Peptides and methods
XX of the invention are useful for preventing retroviral infections in cells
XX susceptible to bacterial or viral infections, or treating patients having
XX infections such as HIV (human immunodeficiency virus), sexually
XX transmitted diseases, bacterial vaginosis or ophthalmic infections. The
XX retrocyclin-mediated killing is useful for modelling and screening novel
XX antibiotics. The invention is also useful in gene therapy. The present
XX sequence is rhesus monkey theta defensin, RTD1 peptide. This sequence is
XX used in the exemplification of the invention
XX
XX Sequence 18 AA;
XX
XX Query Match 87.1%; Score 101; DB 6; Length 18;
XX Best Local Similarity 83.3%; Pred. No. 0.00032;
XX Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
XX
XX Qy 1 GFCRCICTRGFCRCICTR 18
XX | | | | | | | | | |
XX Db 1 GVCRCICTRGFCRCICLR 18
XX
XX RESULT 9
XX ADD95202
XX ID ADD95202 standard; peptide; 18 AA.
XX
XX AC ADD95202;
XX
XX DT 29-JAN-2004 (first entry)
XX
XX DE Cyclic defensin fragment.
XX
XX bacterial infection; human pathogen; holin; defensin;
XX peptide nucleic acid; PNA; penicillin; tetracycline; ampicillin;
XX kanamycin; antibiotic; antibacterial; antibiotic-resistance gene; cyclic.
XX

```

---

```

OS Unidentified.
XX
XX Key Location/Qualifiers
XX Misc-difference 1. .18
XX FT /note= "Residue 1 and residue 18 bond to form a cyclic
XX FT moiety"
XX FT Disulfide-bond 3. .16
XX FT Disulfide-bond 5. .14
XX FT Disulfide-bond 7. .12
XX
XX WO2003059392-A2.
XX
XX PD 24-JUL-2003.
XX
XX PF 17-JAN-2003; 2003WO-DE000124.
XX
XX PR 18-JAN-2002; 2002DE-01001862.
XX
XX PA (DEKR-) DEUT KREBSFORSCHUNGSZENTRUM.
XX
XX PI Braun K, Braun I, Debus J, Pipkorn R, Waldeck W;
XX
XX WPI; 2003-689464/65.
XX
XX New conjugate of transport mediator and active agent, useful for treating
XX prokaryotic infections, especially by neutralizing antibiotic resistance
XX gene.
XX
XX Disclosure; Fig 10; 34pp; German.
XX
XX This invention describes a novel conjugate for treating prokaryotic
XX infections which comprises a transport mediator for passage through the
XX prokaryotic cell membrane and a compound, directed against a prokaryote
XX and intended for introduction into it. The prokaryote is a bacterium,
XX especially one pathogenic in humans. The transport mediator is preferably
XX a human peptide or protein, especially a phage-holin protein, its active
XX fragment or variant or a defensin. The introduced compound is a peptide
XX nucleic acid (PNA) that inhibits a gene, especially one implicated in
XX resistance to penicillin, tetracycline, ampicillin or kanamycin. The
XX conjugate has the structure transport mediator-spacer-PNA where the
XX spacer is poly(glycine and/or lysine), preferably containing 2-6 amino
XX acids and the spacer is linked to the transport mediator through a
XX cleavable disulfide bridge. The conjugates are administered together with
XX an antibiotic, by parenteral, transdermal or subcutaneous routes. The
XX products of the invention have antibacterial activity and are used,
XX especially in combination with antibiotics, for treating prokaryotic,
XX specifically bacterial, infections, especially where the pathogen is
XX resistant to at least one antibiotic and then the PNA is directed against
XX the antibiotic-resistance gene. Where the PNA is directed against an
XX antibiotic resistance gene the conjugate will render the bacteria
XX sensitive to co-administered antibiotics i.e. 'old' antibiotics can be
XX used successfully in cases where normally they would be ineffective. This
XX sequence represents a cyclic defensin fragment described in the
XX disclosure of the invention.
XX
XX Sequence 18 AA;
XX
XX Query Match 87.1%; Score 101; DB 7; Length 18;
XX Best Local Similarity 83.3%; Pred. No. 0.00032;
XX Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
XX
XX Qy 1 GFCRCICTRGFCRCICTR 18
XX | | | | | | | | | |
XX Db 1 GFCRCICLRGVCRICICTR 18
XX
XX RESULT 10
XX ADD35357
XX ID ADD35357 standard; peptide; 18 AA.
XX
XX AC ADD35357;
XX
XX DT 15-JAN-2004 (first entry)
XX

```

XX Antimicrobial peptide theta-defensin.  
DE antimicrobial; ophthalmic; prostaglandin; hypotensive; ophthalmological;  
KW intraocular pressure; glaucoma; ocular hypertension; hyperaemia;  
KW irritation; inflammation; conjunctiva; ocular cell dysplasia;  
KW iridial melanocyte hyperplasia; hyperpigmentation.  
XX Unidentified.  
OS WO2003079997-A2.  
FN 02-OCT-2003.  
XX 21-MAR-2003; 2003WO-US008935.  
PR 21-MAR-2002; 2002US-0367071P.  
XX (CAYM-) CAYMAN CHEM CO.  
PA Maxey KM, Johnson J;  
XX WPI; 2004-011506/01.  
DR Ophthalmic solution useful for the treatment of increased intraocular  
XX pressure comprises a prostaglandin of the F-series and an antimicrobial  
XX peptide.  
PT Disclosure; Page 11; 11pp; English.  
XX The invention relates to a novel ophthalmic solution comprising a  
XX prostaglandin of the F-series and an antimicrobial peptide. A solution of  
XX the invention has hypotensive and ophthalmological activity. The solution  
XX is useful for the treatment of increased intraocular pressure, such as  
XX caused by glaucoma and for the reduction of ocular hypertension. The  
XX prostaglandin and the antimicrobial peptide work synergistically, to  
XX provide beneficial reduction in the incidence of irritant and toxic side  
XX effects such as hyperaemia, irritation and inflammation of conjunctiva,  
XX ocular cell dysplasia, iridial melanocyte hyperplasia, and  
XX hyperpigmentation, associated with the prior art prostaglandin  
XX compositions. The present sequence represents an antimicrobial peptide of  
XX the invention.  
XX  
SQ Sequence 18 AA;  
Query Match 87.1%; Score 101; DB 8; Length 18;  
Best Local Similarity 83.3%; Pred. No. 0.00032;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18  
DB 1 GFCRCICRRGVCRCICTR 18  
RESULT 11  
ADG70012  
ID ADG70012 standard; peptide; 18 AA.  
XX  
AC ADG70012;  
DT 11-MAR-2004 (first entry)  
XX  
DE Rhesus theta-defensin-1 (RTD-1) peptide.  
XX  
KW rhesus theta defensin-1; RTD-1; bacteraemia; lipopolysaccharide; LPS;  
KW lipoteichoic acid; LTA; septic shock; antibacterial; fungicide; virucide;  
KW immunomodulator; anticoagulant activity;  
KW microbial cell-wall biosynthesis; immunomodulation; anticoagulant.  
XX  
OS Macaca mulatta.  
XX WO2003105883-A1.  
XX

XX Antimicrobial peptide theta-defensin.  
DE antimicrobial; ophthalmic; prostaglandin; hypotensive; ophthalmological;  
KW intraocular pressure; glaucoma; ocular hypertension; hyperaemia;  
KW irritation; inflammation; conjunctiva; ocular cell dysplasia;  
KW iridial melanocyte hyperplasia; hyperpigmentation.  
XX Unidentified.  
OS WO2003079997-A2.  
FN 02-OCT-2003.  
XX 21-MAR-2003; 2003WO-US008935.  
PR 21-MAR-2002; 2002US-0367071P.  
XX (CAYM-) CAYMAN CHEM CO.  
PA Maxey KM, Johnson J;  
XX WPI; 2004-011506/01.  
DR Ophthalmic solution useful for the treatment of increased intraocular  
XX pressure comprises a prostaglandin of the F-series and an antimicrobial  
XX peptide.  
PT Disclosure; Page 11; 11pp; English.  
XX The invention relates to a novel ophthalmic solution comprising a  
XX prostaglandin of the F-series and an antimicrobial peptide. A solution of  
XX the invention has hypotensive and ophthalmological activity. The solution  
XX is useful for the treatment of increased intraocular pressure, such as  
XX caused by glaucoma and for the reduction of ocular hypertension. The  
XX prostaglandin and the antimicrobial peptide work synergistically, to  
XX provide beneficial reduction in the incidence of irritant and toxic side  
XX effects such as hyperaemia, irritation and inflammation of conjunctiva,  
XX ocular cell dysplasia, iridial melanocyte hyperplasia, and  
XX hyperpigmentation, associated with the prior art prostaglandin  
XX compositions. The present sequence represents an antimicrobial peptide of  
XX the invention.  
XX  
SQ Sequence 18 AA;  
Query Match 87.1%; Score 101; DB 8; Length 18;  
Best Local Similarity 83.3%; Pred. No. 0.00032;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18  
DB 1 GFCRCICRRGVCRCICTR 18  
RESULT 12  
ADO35229  
ID ADO35229 standard; peptide; 18 AA.  
XX  
AC ADO35229;  
DT 15-JUL-2004 (first entry)  
XX  
DE Rhesus theta defensin peptide, RTD-1.  
XX  
KW Monkey; Rhesus theta defensin; RTD-1; antimicrobial peptide; cyclic;  
KW antimicrobial; antiinflammatory; antibacterial; virucide; fungicide;  
KW food; contact lens solution; eye wash solution; inflammatory response;  
KW microbicidal inhibition; microbistatic growth inhibition; disinfectant;  
KW food preservative; bacterial infection; viral infection;  
KW fungal infection; haemolytic activity.  
XX  
OS Macaca mulatta.  
XX  
FH Key Location/Qualifiers  
FT Modified-site 1..18  
FT /note= "The peptide is cyclised by a covalent link  
FT between these two residues"  
FT Disulfide-bond 3..16  
FT Disulfide-bond 5..14  
FT Disulfide-bond 7..12  
XX  
PN US2004014669-A1.  
XX

PD 24-DEC-2003.  
XX  
XX 30-MAY-2003; 2003WO-EP005694.  
XX  
XX 13-JUN-2002; 2002DE-01026216.  
PR (FARB ) BAYER HEALTHCARE AG.  
XX  
XX Ladel C, Newton B, Labischinski H, Brunner N, Gerdes C;  
PI WPI; 2004-071500/07.  
XX  
XX Use of rhesus theta defensin-1 for treating or preventing bacteremia and  
XX septic shock, also for binding bacterial products and as immunomodulator  
XX and anticoagulant.  
PT  
XX  
XX Example 1; SEQ ID NO 1; 28pp; German.  
XX  
XX This invention describes the novel use of rhesus theta defensin-1 (RTD-1)  
XX for preparing a composition for treatment and/or prevention of  
XX bacteraemia for binding bacterial products such as lipopolysaccharide  
XX (LPS) and/or lipoteichoic acid (LTA), or for treatment and/or prevention  
XX of septic shock. RTD-1, isolated from immune cells of rhesus monkeys, has  
XX antibacterial, fungicide, virucide, immunomodulator and anticoagulant  
XX activity. RTD-1 inhibits microbial cell-wall biosynthesis and also binds  
XX to LPS and LTA. RTD-1 is useful for treatment and prevention of severe  
XX infections caused by Gram-positive or -negative bacteria and yeasts, or  
XX by viruses. RTD-1 combines four advantageous properties: a direct  
XX antimicrobial action, neutralisation of bacterial products (by binding),  
XX immunomodulation (reducing release of proinflammatory cytokines but  
XX increasing release of regulatory factors) and anticoagulant action, so  
XX provides a better and simpler treatment.  
XX  
SQ Sequence 18 AA;  
Query Match 87.1%; Score 101; DB 8; Length 18;  
Best Local Similarity 83.3%; Pred. No. 0.00032;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18  
DB 1 GFCRCICRRGVCRCICTR 18  
RESULT 12  
ADO35229  
ID ADO35229 standard; peptide; 18 AA.  
XX  
AC ADO35229;  
DT 15-JUL-2004 (first entry)  
XX  
DE Rhesus theta defensin peptide, RTD-1.  
XX  
KW Monkey; Rhesus theta defensin; RTD-1; antimicrobial peptide; cyclic;  
KW antimicrobial; antiinflammatory; antibacterial; virucide; fungicide;  
KW food; contact lens solution; eye wash solution; inflammatory response;  
KW microbicidal inhibition; microbistatic growth inhibition; disinfectant;  
KW food preservative; bacterial infection; viral infection;  
KW fungal infection; haemolytic activity.  
XX  
OS Macaca mulatta.  
XX  
FH Key Location/Qualifiers  
FT Modified-site 1..18  
FT /note= "The peptide is cyclised by a covalent link  
FT between these two residues"  
FT Disulfide-bond 3..16  
FT Disulfide-bond 5..14  
FT Disulfide-bond 7..12  
XX  
PN US2004014669-A1.  
XX

PD 22-JAN-2004.  
 XX 30-APR-2003; 2003US-00427715.  
 XX 30-APR-2002; 2002US-0377071P.  
 XX (REGC ) UNIV CALIFORNIA.  
 XX Selsted ME, Tran DQ;  
 XX WPI; 2004-167945/16.  
 XX Novel theta defensin analog useful for reducing or inhibiting growth or  
 PT survival of a microorganism in an environment such as food or food  
 PT product, contact lens solution, or eye wash solution, an inanimate  
 PT object.  
 XX Example 1; SEQ ID NO 1; 46pp; English.  
 XX The invention relates to a theta defensin analogue defined by formulae  
 CC detailed in the claims or appearing as ADO35239-ADO35257. The theta  
 CC defensin analogue is useful for reducing or inhibiting growth or survival  
 CC of a microorganism in an environment capable of sustaining the growth or  
 CC survival of the microorganism and is useful for reducing or inhibiting  
 CC growth or survival of a microorganism in an environment such as food or  
 CC food product, a solution (e.g., contact lens solution, or eye wash  
 CC solution), an inanimate object comprising surface, or a mammal. The  
 CC peptides are also useful for decreasing inflammatory response and for  
 CC therapeutic agents, disinfectants, food preservatives, or medicaments.  
 CC The peptides are also useful for treating a patient suffering from  
 CC bacterial, viral, fungal or other infection. The theta defensins have  
 CC high antimicrobial activity and low haemolytic activity. The present  
 CC sequence represents the rhesus monkey wild-type theta defensin RTD-1.  
 XX Sequence 18 AA;  
 SQ Query Match 87.1%; Score 101; DB 8; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00032;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 Qy 1 GFCRCICTRGFCRCICTR 18  
 Db 1 GFCRCICRRGVCRICICTR 18  
 RESULT 13  
 ADO35238  
 ID ADO35238 standard; peptide; 18 AA.  
 XX ADO35238;  
 AC ADO35238;  
 XX 15-JUL-2004 (first entry)  
 DT Rhesus theta defensin analogue peptide arTD-1-OH.  
 DE Monkey; Rhesus theta defensin; RTD; antimicrobial peptide; antimicrobial;  
 KW antiinflammatory; antibacterial; virucide; fungicide; food;  
 KW contact lens solution; eye wash solution; inflammatory response;  
 KW microbicidal inhibition; microbiostatic growth inhibition; disinfectant;  
 KW food preservative; bacterial infection; viral infection;  
 KW fungal infection; haemolytic activity.  
 XX Macaca mulatta.  
 OS Synthetic.  
 XX Key Location/Qualifiers  
 FH Disulfide-bond 3..16  
 FT Disulfide-bond 5..14  
 FT Disulfide-bond 7..12  
 FT Modified-site 18  
 FT /note= "Hydroxylated"

XX US2004014669-A1.  
 XX 22-JAN-2004.  
 XX 30-APR-2003; 2003US-00427715.  
 XX 30-APR-2002; 2002US-0377071P.  
 XX (REGC ) UNIV CALIFORNIA.  
 XX Selsted ME, Tran DQ;  
 XX WPI; 2004-167945/16.  
 XX Novel theta defensin analog useful for reducing or inhibiting growth or  
 PT survival of a microorganism in an environment such as food or food  
 PT product, contact lens solution, or eye wash solution, an inanimate  
 PT object.  
 XX Example 2; SEQ ID NO 12; 46pp; English.  
 XX The invention relates to a theta defensin analogue defined by formulae  
 CC detailed in the claims or appearing as ADO35239-ADO35257. The theta  
 CC defensin analogue is useful for reducing or inhibiting growth or survival  
 CC of a microorganism in an environment capable of sustaining the growth or  
 CC survival of the microorganism and is useful for reducing or inhibiting  
 CC growth or survival of a microorganism in an environment such as food or  
 CC food product, a solution (e.g., contact lens solution, or eye wash  
 CC solution), an inanimate object comprising surface, or a mammal. The  
 CC peptides are also useful for decreasing inflammatory response and for  
 CC microbicidal inhibition of survival of microorganism as well as  
 CC therapeutic agents, disinfectants, food preservatives, or medicaments.  
 CC The peptides are also useful for treating a patient suffering from  
 CC bacterial, viral, fungal or other infection. The theta defensins have  
 CC high antimicrobial activity and low haemolytic activity. The present  
 CC sequence represents a Rhesus theta defensin analogue peptide.  
 XX Sequence 18 AA;  
 SQ Query Match 87.1%; Score 101; DB 8; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00032;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 Qy 1 GFCRCICTRGFCRCICTR 18  
 Db 1 GFCRCICRRGVCRICICTR 18  
 RESULT 14  
 ADO35239  
 ID ADO35239 standard; peptide; 18 AA.  
 XX ADO35239;  
 AC ADO35239;  
 XX 15-JUL-2004 (first entry)  
 DT Rhesus theta defensin analogue peptide arTD-1-NH.  
 DE Monkey; Rhesus theta defensin; RTD; antimicrobial peptide; antimicrobial;  
 KW antiinflammatory; antibacterial; virucide; fungicide; food;  
 KW contact lens solution; eye wash solution; inflammatory response;  
 KW microbicidal inhibition; microbiostatic growth inhibition; disinfectant;  
 KW food preservative; bacterial infection; viral infection;  
 KW fungal infection; haemolytic activity.  
 XX Macaca mulatta.  
 OS Synthetic.  
 XX Key Location/Qualifiers  
 FH Disulfide-bond 3..16  
 FT Disulfide-bond 5..14  
 FT Disulfide-bond 7..12  
 FT Modified-site 18  
 FT /note= "Hydroxylated"

```

FT Disulfide-bond 7. .12
FT Modified-site 18
FT /note= "Amidated"
XX
XX
XX
XX US2004014669-A1.
XX
XX 22-JAN-2004.
XX
XX 30-APR-2003; 2003US-00427715.
XX
XX 30-APR-2002; 2002US-0377071P.
XX (REGC ) UNIV CALIFORNIA.
XX
XX Selsted ME, Tran DQ;
XX WPI; 2004-167945/16.
XX
XX Novel theta defensin analog useful for reducing or inhibiting growth or
XX survival of a microorganism in an environment such as food or food
XX product, contact lens solution, or eye wash solution, an inanimate
XX object.
XX
XX Claim 1; SEQ ID NO 13; 46pp; English.
XX
XX The invention relates to a theta defensin analogue defined by formulae
XX detailed in the claims or appearing as ADO35239-ADO35257. The theta
XX defensin analogue is useful for reducing or inhibiting growth or survival
XX of a microorganism in an environment capable of sustaining the growth or
XX survival of the microorganism and is useful for reducing or inhibiting
XX growth or survival of a microorganism in an environment such as food or
XX food product, a solution (e.g., contact lens solution, or eye wash
XX solution), an inanimate object comprising surface, or a mammal. The
XX peptides are also useful for decreasing inflammatory response and for
XX microbicidal inhibition of survival of microorganism as well as
XX microbistatic inhibition of growth. Thus the peptides are useful as
XX therapeutic agents, disinfectants, food preservatives, or medicaments.
XX The peptides are also useful for treating a patient suffering from
XX bacterial, viral, fungal or other infection. The theta defensins have
XX high antimicrobial activity and low haemolytic activity. The present
XX sequence represents a Rhesus theta defensin analogue peptide.
XX
XX Sequence 18 AA;
XX
XX Query Match 87.1%; Score 101; DB 8; Length 18;
XX Best Local Similarity 83.3%; Pred. No. 0.00032;
XX Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
XX
XX QY 1 GFCRCICTRGFCRCICCTR 18
XX
XX Db 1 GFCRCICTRGFCRCICCTR 18
XX
XX
XX RESULT 15
XX ADO35250
XX ID ADO35250 standard; peptide; 18 AA.
XX
XX AC ADO35250;
XX
XX 15-JUL-2004 (first entry)
XX
XX Rhesus theta defensin analogue peptide RFD-1-26.
XX
XX Monkey; Rhesus theta defensin; RFD; antimicrobial peptide; antimicrobial;
XX antiinflammatory; antibacterial; virucide; fungicide; food;
XX contact lens solution; eye wash solution; inflammatory response;
XX microbicidal inhibition; microbistatic growth inhibition; disinfectant;
XX food preservative; bacterial infection; viral infection;
XX fungal infection; haemolytic activity; cyclic.
XX
XX Macaca mulatta.
XX OS Synthetic.
XX

```

---

```

FH Key Location/Qualifiers
FT Modified-site 1. .18
FT /note= "The peptide is cyclised by a covalent link
FT between these two residues"
FT
FT Disulfide-bond 3. .16
FT Disulfide-bond 5. .14
FT Disulfide-bond 7. .12
XX
XX US2004014669-A1.
XX
XX 22-JAN-2004.
XX
XX 30-APR-2003; 2003US-00427715.
XX
XX 30-APR-2002; 2002US-0377071P.
XX (REGC ) UNIV CALIFORNIA.
XX
XX Selsted ME, Tran DQ;
XX WPI; 2004-167945/16.
XX
XX Novel theta defensin analog useful for reducing or inhibiting growth or
XX survival of a microorganism in an environment such as food or food
XX product, contact lens solution, or eye wash solution, an inanimate
XX object.
XX
XX Claim 1; SEQ ID NO 24; 46pp; English.
XX
XX The invention relates to a theta defensin analogue defined by formulae
XX detailed in the claims or appearing as ADO35239-ADO35257. The theta
XX defensin analogue is useful for reducing or inhibiting growth or survival
XX of a microorganism in an environment capable of sustaining the growth or
XX survival of the microorganism and is useful for reducing or inhibiting
XX growth or survival of a microorganism in an environment such as food or
XX food product, a solution (e.g., contact lens solution, or eye wash
XX solution), an inanimate object comprising surface, or a mammal. The
XX peptides are also useful for decreasing inflammatory response and for
XX microbicidal inhibition of survival of microorganism as well as
XX microbistatic inhibition of growth. Thus the peptides are useful as
XX therapeutic agents, disinfectants, food preservatives, or medicaments.
XX The peptides are also useful for treating a patient suffering from
XX bacterial, viral, fungal or other infection. The theta defensins have
XX high antimicrobial activity and low haemolytic activity. The present
XX sequence represents a Rhesus theta defensin analogue peptide.
XX
XX Sequence 18 AA;
XX
XX Query Match 87.1%; Score 101; DB 8; Length 18;
XX Best Local Similarity 88.9%; Pred. No. 0.00032;
XX Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
XX
XX QY 1 GFCRCICTRGFCRCICCTR 18
XX
XX Db 1 GFCRCICTRGFCRCICCTR 18
XX
XX
XX Search completed: April 28, 2005, 14:17:43
XX Job time : 123.5 secs

```



GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 14:12:37 ; Search time 30 Seconds  
(without alignments)  
44.789 Million cell updates/sec

Title: US-10-009-317A-32

Perfect score: 116

Sequence: 1 GFCRCICTRGFCRCICTR 18

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA.\*

1: /cgn2\_6/ptodata/1/iaa/5A\_COMB.pep.\*  
2: /cgn2\_6/ptodata/1/iaa/5B\_COMB.pep.\*  
3: /cgn2\_6/ptodata/1/iaa/6A\_COMB.pep.\*  
4: /cgn2\_6/ptodata/1/iaa/6B\_COMB.pep.\*  
5: /cgn2\_6/ptodata/1/iaa/PCTUS\_COMB.pep.\*  
6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	101	87.1	18	US-09-309-487-1	Sequence 1, Appli
2	101	87.1	18	US-09-967-808-1	Sequence 1, Appli
3	93	80.2	18	US-10-141-645-5	Sequence 5, Appli
4	93	80.2	18	US-10-141-645-6	Sequence 6, Appli
5	91	78.4	18	US-09-309-487-9	Sequence 9, Appli
6	91	78.4	18	US-09-967-808-9	Sequence 9, Appli
7	90	77.6	18	US-10-141-645-1	Sequence 1, Appli
8	87	75.0	18	US-09-917-340-53	Sequence 53, Appli
9	87	75.0	18	US-10-141-645-2	Sequence 2, Appli
10	85	73.3	18	US-10-141-645-3	Sequence 3, Appli
11	85	73.3	18	US-10-141-645-4	Sequence 4, Appli
12	83	71.6	18	US-10-141-645-7	Sequence 7, Appli
13	75	64.7	18	US-10-141-645-8	Sequence 8, Appli
14	75	64.7	18	US-10-141-645-9	Sequence 9, Appli
15	73	62.9	92	US-09-309-487-21	Sequence 21, Appli
16	73	62.9	92	US-09-967-808-21	Sequence 21, Appli
17	64	55.2	76	US-09-309-487-14	Sequence 14, Appli
18	64	55.2	76	US-09-309-487-29	Sequence 29, Appli
19	64	55.2	76	US-09-967-808-14	Sequence 14, Appli
20	64	55.2	76	US-09-967-808-29	Sequence 29, Appli
21	64	55.2	76	US-10-141-645-15	Sequence 15, Appli
22	60	51.7	180	US-09-510-238A-286	Sequence 286, App
23	58	50.0	9	US-09-309-487-18	Sequence 18, Appli
24	58	50.0	9	US-09-967-808-18	Sequence 18, Appli
25	58	50.0	9	US-10-141-645-36	Sequence 36, Appli
26	56	48.3	9	US-10-141-645-49	Sequence 49, Appli
27	56	48.3	323	US-09-270-767-41896	Sequence 41896, A

28 55.5 47.8 1400 3 US-08-630-915A-37 Sequence 37, Appli  
29 55.5 47.8 1400 4 US-09-879-957-37 Sequence 37, Appli  
30 55 47.4 168 4 US-09-252-991A-32502 Sequence 32502, A  
31 55 47.4 585 4 US-09-252-991A-32321 Sequence 32321, A  
32 55 47.4 2732 4 US-09-086-436-30 Sequence 30, Appli  
33 54.5 47.0 801 1 US-07-906-349A-6 Sequence 6, Appli  
34 54 46.6 18 3 US-09-604-864-8 Sequence 8, Appli  
35 54 46.6 18 3 US-09-604-864-9 Sequence 9, Appli  
36 54 46.6 18 4 US-10-042-872-8 Sequence 8, Appli  
37 54 46.6 18 4 US-10-042-872-9 Sequence 9, Appli  
38 53.5 46.1 1917 4 US-09-627-650B-5 Sequence 5, Appli  
39 53.5 46.1 1917 4 US-09-436-063C-5 Sequence 5, Appli  
40 53 45.7 1652 4 US-09-627-650B-1 Sequence 1, Appli  
41 53 45.7 1652 4 US-09-436-063C-1 Sequence 1, Appli  
42 53 45.7 2508 4 US-09-627-650B-7 Sequence 7, Appli  
43 53 45.7 2508 4 US-09-436-063C-7 Sequence 7, Appli  
44 53 45.7 2544 4 US-09-627-650B-3 Sequence 3, Appli  
45 53 45.7 2544 4 US-09-436-063C-3 Sequence 3, Appli

#### ALIGNMENTS

##### RESULT 1

US-09-309-487-1  
; Sequence 1, Application US/09309487  
; Patent No. 6335318  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tang, Yi-Quan  
; APPLICANT: Yuan, Jun  
; APPLICANT: Ouellette, Andre J.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using Same  
; FILE REFERENCE: P-UC 3095  
; CURRENT APPLICATION NUMBER: US/09/309,487  
; CURRENT FILING DATE: 1999-05-10  
; NUMBER OF SEQ ID NOS: 31  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 1  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Macaca mulatta  
US-09-309-487-1

Query Match 87.1%; Score 101; DB 3; Length 18;  
Best Local Similarity 83.3%; Pred. No. 1.4e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GFCRCICTRGFCRCICTR 18

Db 1 GFCRCICTRGFCRCICTR 18

##### RESULT 2

US-09-967-808-1  
; Sequence 1, Application US/09967808  
; Patent No. 6514727  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tang, Yi-Quan  
; APPLICANT: Yuan, Jun  
; APPLICANT: Ouellette, Andre J.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using  
; TITLE OF INVENTION: Same  
; FILE REFERENCE: P-UC 3095  
; CURRENT APPLICATION NUMBER: US/09/967,808  
; CURRENT FILING DATE: 2001-09-26  
; PRIOR APPLICATION NUMBER: US/09/309,487  
; PRIOR FILING DATE: 1999-05-10  
; NUMBER OF SEQ ID NOS: 31  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 1  
; LENGTH: 18

```

; SOFTW
; SEQ ID
; LENGTH
; TYPE

```

Db 3 GFCRCRCRCRCIC 18  
|||||:|||||

RESULT 7  
US-10-141-645-1  
; Sequence 1, Application US/10141645  
; Patent No. 6713078  
; GENERAL INFORMATION:  
; APPLICANT: Robert Lehrer  
; APPLICANT: Alan Waring  
; APPLICANT: Alexander Cole  
; APPLICANT: Teresa Hong  
; TITLE OF INVENTION: Retrocyclins - Antiviral and  
; FILE REFERENCE: UCLA-001CIP  
; CURRENT APPLICATION NUMBER: US/10/141,645  
; CURRENT FILING DATE: 2002-05-06  
; PRIOR APPLICATION NUMBER: 60/284,855  
; PRIOR FILING DATE: 2001-04-18  
; PRIOR APPLICATION NUMBER: Unassigned  
; PRIOR FILING DATE: 2002-04-18  
; NUMBER OF SEQ ID NOS: 125  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-141-645-1

Query Match 77.6%; Score 90; DB 4; Length 18;  
Best Local Similarity 77.8%; Pred. No. 0.00023;  
Matches 14; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy 1 GFCRCRCRCRCIC 18  
| | | | | : | | | | |  
Db 1 GICRCICGRCICICGR 18

RESULT 8  
US-09-917-340-53  
; Sequence 53, Application US/09917340  
; Patent No. 6696238  
; GENERAL INFORMATION:  
; APPLICANT: Murphy, Christopher J.  
; APPLICANT: McNulty, Jonathan F.  
; APPLICANT: Reid, Ted W.  
; TITLE OF INVENTION: Transplant Media  
; FILE REFERENCE: TPLANT-06468  
; CURRENT APPLICATION NUMBER: US/09/917,340  
; CURRENT FILING DATE: 2001-07-29  
; PRIOR APPLICATION NUMBER: 60/221,632  
; PRIOR FILING DATE: 2000-07-28  
; PRIOR APPLICATION NUMBER: 60/249,602  
; PRIOR FILING DATE: 2000-11-17  
; PRIOR APPLICATION NUMBER: 60/290,932  
; PRIOR FILING DATE: 2001-05-15  
; NUMBER OF SEQ ID NOS: 96  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 53  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Macaca mulatta  
US-09-917-340-53

Query Match 75.0%; Score 87; DB 4; Length 18;  
Best Local Similarity 86.7%; Pred. No. 0.00051;  
Matches 13; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 4 RCICTRGFCRCIC 18  
| | | | | : | | | | |  
Db 1 RCICTRGFCRCIC 15

RESULT 9  
US-10-141-645-2  
; Sequence 2, Application US/10141645  
; Patent No. 6713078  
; GENERAL INFORMATION:  
; APPLICANT: Robert Lehrer  
; APPLICANT: Alan Waring  
; APPLICANT: Alexander Cole  
; APPLICANT: Teresa Hong  
; TITLE OF INVENTION: Retrocyclins - Antiviral and  
; FILE REFERENCE: UCLA-001CIP  
; CURRENT APPLICATION NUMBER: US/10/141,645  
; CURRENT FILING DATE: 2002-05-06  
; PRIOR APPLICATION NUMBER: 60/284,855  
; PRIOR FILING DATE: 2001-04-18  
; PRIOR APPLICATION NUMBER: Unassigned  
; PRIOR FILING DATE: 2002-04-18  
; NUMBER OF SEQ ID NOS: 125  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 2  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic variant  
US-10-141-645-2

Query Match 75.0%; Score 87; DB 4; Length 18;  
Best Local Similarity 72.2%; Pred. No. 0.00051;  
Matches 13; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 GFCRCICTRGFCRCIC 18  
| | | | | : | | | | |  
Db 1 GICRCICGRCICICGR 18

RESULT 10  
US-10-141-645-3  
; Sequence 3, Application US/10141645  
; Patent No. 6713078  
; GENERAL INFORMATION:  
; APPLICANT: Robert Lehrer  
; APPLICANT: Alan Waring  
; APPLICANT: Alexander Cole  
; APPLICANT: Teresa Hong  
; TITLE OF INVENTION: Retrocyclins - Antiviral and  
; FILE REFERENCE: UCLA-001CIP  
; CURRENT APPLICATION NUMBER: US/10/141,645  
; CURRENT FILING DATE: 2002-05-06  
; PRIOR APPLICATION NUMBER: 60/284,855  
; PRIOR FILING DATE: 2001-04-18  
; PRIOR APPLICATION NUMBER: Unassigned  
; PRIOR FILING DATE: 2002-04-18  
; NUMBER OF SEQ ID NOS: 125  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 3  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic variant  
US-10-141-645-3

Query Match 73.3%; Score 85; DB 4; Length 18;  
Best Local Similarity 72.2%; Pred. No. 0.00085;  
Matches 13; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

Qy 1 GFCRCICTRGFCRCIC 18  
| | | | | : | | | | |  
Db 1 GICRCICGRCICICGR 18

```
RESULT 11
US-10-141-645-4
; Sequence 4, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; PRIOR FILING DATE: 2002-05-06
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-4
Query Match 73.3%; Score 85; DB 4; Length 18;
Best Local Similarity 72.2%; Pred. No. 0.00085;
Matches 13; Conservative 0; Mismatches 5; Indels 0; Gaps 0;
QY 1 GFCRCICTRGFCRCICTR 18
| | | | | | | | | | | | | | |
DB 1 GICRCICGRCICRCYCGR 18

RESULT 12
US-10-141-645-7
; Sequence 7, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 7
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-7
Query Match 71.6%; Score 83; DB 4; Length 18;
Best Local Similarity 72.2%; Pred. No. 0.0014;
Matches 13; Conservative 0; Mismatches 5; Indels 0; Gaps 0;
QY 1 GFCRCICTRGFCRCICTR 18
| | | | | | | | | | | | | | |

RESULT 13
US-10-141-645-8
; Sequence 8, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 8
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-8
Query Match 64.7%; Score 75; DB 4; Length 18;
Best Local Similarity 66.7%; Pred. No. 0.011;
Matches 12; Conservative 0; Mismatches 6; Indels 0; Gaps 0;
QY 1 GFCRCICTRGFCRCICTR 18
| | | | | | | | | | | | | | |
DB 1 GICICGCGICRCICGR 18

RESULT 14
US-10-141-645-9
; Sequence 9, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 9
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-9
Query Match 64.7%; Score 75; DB 4; Length 18;
Best Local Similarity 66.7%; Pred. No. 0.011;
Matches 12; Conservative 0; Mismatches 6; Indels 0; Gaps 0;
QY 1 GFCRCICTRGFCRCICTR 18
```

Db 1 GICICGRCGICVCGR 18

RESULT 15  
 US-09-309-487-21  
 ; Sequence 21, Application US/09309487  
 ; Patent No. 635318  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Selsted, Michael E.  
 ; APPLICANT: Tang, Yi-Quan  
 ; APPLICANT: Yuan, Jun  
 ; APPLICANT: Ouellette, Andre J.  
 ; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using Same  
 ; FILE REFERENCE: P-UC 3095  
 ; CURRENT APPLICATION NUMBER: US/09/309,487  
 ; CURRENT FILING DATE: 1999-05-10  
 ; NUMBER OF SEQ ID NOS: 31  
 ; SOFTWARE: PatentIn Ver. 2.0  
 ; SEQ ID NO 21  
 ; LENGTH: 92  
 ; TYPE: PRT  
 ; ORGANISM: Macaca mulatta  
 US-09-309-487-21

Query Match 62.9%; Score 73; DB 3; Length 92;  
 Best Local Similarity 84.6%; Pred. NO. 0.067;  
 Matches 11; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 4 RCICTRGRCRCIC 16  
 |||||  
 Db 65 RCICTRGRCRLC 77

Search completed: April 28, 2005, 14:23:42  
 Job time : 31 secs

**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 14:13:43 ; Search time 91 Seconds  
(without alignments)  
65.889 Million cell updates/sec

Title: US-10-009-317A-32

Perfect score: 116

Sequence: 1 GFCRCICRTRGFCRCICTR 18

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1426032 seqs, 333106140 residues

Total number of hits satisfying chosen parameters: 1426032

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA.\*

- 1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*
- 2: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*
- 3: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep.\*
- 4: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep.\*
- 5: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*
- 6: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*
- 7: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep.\*
- 8: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep.\*
- 9: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*
- 10: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*
- 11: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*
- 12: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*
- 13: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*
- 14: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*
- 15: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*
- 16: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*
- 17: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*
- 18: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pep.\*
- 19: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pep.\*
- 20: /cgn2\_6/ptodata/1/pubpaa/US60\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	ID	Description
1	116	100.0	18	14	US-10-060-102-28
2	116	100.0	18	15	US-10-427-715-2
3	116	100.0	18	15	US-10-427-715-14
4	116	100.0	18	15	US-10-721-839-28
5	103	88.8	18	14	US-10-060-102-32
6	103	88.8	18	15	US-10-721-839-32
7	101	87.1	18	14	US-10-060-102-30
8	101	87.1	18	14	US-10-313-994-1
9	101	87.1	18	15	US-10-427-715-1
10	101	87.1	18	15	US-10-427-715-12
11	101	87.1	18	15	US-10-427-715-13
12	101	87.1	18	15	US-10-427-715-24
13	101	87.1	18	15	US-10-721-839-30

14	100	86.2	18	15	US-10-427-715-29	Sequence 29, Appl
15	93	80.2	18	14	US-10-141-645-5	Sequence 5, Appl
16	93	80.2	18	14	US-10-141-645-6	Sequence 6, Appl
17	91	78.4	18	14	US-10-313-994-9	Sequence 9, Appl
18	90	77.6	18	14	US-10-060-102-27	Sequence 27, Appl
19	90	77.6	18	14	US-10-141-645-1	Sequence 1, Appl
20	90	77.6	18	15	US-10-721-839-27	Sequence 27, Appl
21	89	76.7	18	15	US-10-427-715-23	Sequence 23, Appl
22	88	75.9	18	14	US-10-060-102-31	Sequence 31, Appl
23	88	75.9	18	15	US-10-721-839-31	Sequence 31, Appl
24	87	75.0	18	9	US-09-917-340-53	Sequence 53, Appl
25	87	75.0	18	14	US-10-141-645-2	Sequence 2, Appl
26	87	75.0	18	17	US-10-844-837-53	Sequence 53, Appl
27	87	75.0	18	17	US-10-909-119-67	Sequence 67, Appl
28	86	74.1	18	14	US-10-060-102-29	Sequence 29, Appl
29	86	74.1	18	15	US-10-427-715-3	Sequence 3, Appl
30	86	74.1	18	15	US-10-427-715-15	Sequence 15, Appl
31	86	74.1	18	15	US-10-427-715-16	Sequence 16, Appl
32	86	74.1	18	15	US-10-721-839-29	Sequence 29, Appl
33	85	73.3	18	14	US-10-141-645-4	Sequence 4, Appl
34	85	73.3	18	14	US-10-141-645-4	Sequence 4, Appl
35	85	73.3	18	15	US-10-427-715-30	Sequence 30, Appl
36	83	71.6	18	14	US-10-141-645-7	Sequence 7, Appl
37	83	71.6	18	15	US-10-427-715-19	Sequence 19, Appl
38	83	71.6	18	15	US-10-427-715-20	Sequence 20, Appl
39	82	70.7	18	15	US-10-427-715-17	Sequence 17, Appl
40	82	70.7	18	15	US-10-427-715-31	Sequence 31, Appl
41	75	64.7	18	14	US-10-141-645-8	Sequence 8, Appl
42	75	64.7	18	14	US-10-141-645-9	Sequence 9, Appl
43	74	63.8	18	15	US-10-427-715-28	Sequence 28, Appl
44	73	62.9	18	15	US-10-427-715-37	Sequence 37, Appl
45	73	62.9	18	15	US-10-427-715-38	Sequence 38, Appl

ALIGNMENTS

RESULT 1  
US-10-060-102-28  
; Sequence 28, Application US/10060102  
; Publication No. US20030022829A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/060,102  
; CURRENT FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: Patentin Ver. 2.1  
; SEQ ID NO 28  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-060-102-28

Not for Art (NPA)

Query Match 100.0%; Score 116; DB 14; Length 18;  
Best Local Similarity 100.0%; Pred. No. 1e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GFCRCICRTRGFCRCICTR 18

Db 1 GFCRCICTRGFCRCICTR 18  
|||||

RESULT 2  
US-10-427-715-2  
; Sequence 2, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 2  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Macaca mulatta  
US-10-427-715-2

Query Match 100.0%; Score 116; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 1e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18  
|||||

Db 1 GFCRCICTRGFCRCICTR 18  
|||||

RESULT 3  
US-10-427-715-14  
; Sequence 14, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 14  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct  
US-10-427-715-14

Query Match 100.0%; Score 116; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 1e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18  
|||||

Db 1 GFCRCICTRGFCRCICTR 18  
|||||

RESULT 4  
US-10-721-839-28  
; Sequence 28, Application US/10721839  
; Publication No. US20040086535A1  
; GENERAL INFORMATION:

; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; TITLE OF INVENTION: CATHELICIDINS  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/721,839  
; CURRENT FILING DATE: 2003-11-25  
; PRIOR APPLICATION NUMBER: US/10/060,102  
; PRIOR FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 28  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-721-839-28

Query Match 100.0%; Score 116; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 1e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18  
|||||

Db 1 GFCRCICTRGFCRCICTR 18  
|||||

RESULT 5  
US-10-060-102-32  
; Sequence 32, Application US/10060102  
; Publication No. US20030022829A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; TITLE OF INVENTION: CATHELICIDINS  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/060,102  
; CURRENT FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 32  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-060-102-32

Query Match 88.8%; Score 103; DB 14; Length 18;  
Best Local Similarity 88.9%; Pred. No. 2.9e-05;  
Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18



Db 1 GICRCICTRGFCRCICGR 18  
| | | | | | | | | | | | | | | | | |

RESULT 6  
US-10-721-839-32  
; Sequence 32, Application US/10721839  
; Publication No. US20040086535A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMALIAN CATHELICIDINS  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/721,839  
; CURRENT FILING DATE: 2003-11-25  
; PRIOR APPLICATION NUMBER: US/10/060,102  
; PRIOR FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 32  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
US-10-721-839-32

Query Match 88.8%; Score 103; DB 15; Length 18;  
Best Local Similarity 88.9%; Pred. No. 2.9e-05;  
Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICTR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GICRCICTRGFCRCICGR 18

RESULT 7  
US-10-060-102-30  
; Sequence 30, Application US/10060102  
; Publication No. US20030022829A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMALIAN CATHELICIDINS  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/060,102  
; CURRENT FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 30  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic

Query Match 88.8%; Score 103; DB 15; Length 18;  
Best Local Similarity 88.9%; Pred. No. 2.9e-05;  
Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICTR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GICRCICTRGFCRCICGR 18

; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-060-102-30

Query Match 87.1%; Score 101; DB 14; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.9e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCICTR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GFCRCICRRGVCRCICTR 18

RESULT 8  
US-10-313-994-1  
; Sequence 1, Application US/10313994  
; Publication No. US20030162718A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tang, Yi-Quan  
; APPLICANT: Yuan, Jun  
; APPLICANT: Ouellette, Andre J.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using Same  
; FILE REFERENCE: P-UC 3095  
; CURRENT APPLICATION NUMBER: US/10/313,994  
; CURRENT FILING DATE: 2002-12-05  
; PRIOR APPLICATION NUMBER: US/09/309,487  
; PRIOR FILING DATE: 1999-05-10  
; NUMBER OF SEQ ID NOS: 31  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 1  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Macaca mulatta  
US-10-313-994-1

Query Match 87.1%; Score 101; DB 14; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.9e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICTR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GFCRCICRRGVCRCICTR 18

RESULT 9  
US-10-427-715-1  
; Sequence 1, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UCS754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Macaca mulatta  
US-10-427-715-1

Query Match 87.1%; Score 101; DB 15; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.9e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICTR 18  
| | | | | | | | | | | | | | | | | |

Db 1 GFCRCCLRRGVCRICICTR 18

## RESULT 10

US-10-427-715-12  
; Sequence 12, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 12  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct

## US-10-427-715-12

Query Match 87.1%; Score 101; DB 15; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.9e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICICTR 18

Db 1 GFCRCCLRRGVCRICICTR 18

## RESULT 11

US-10-427-715-13  
; Sequence 13, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 13  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct  
; FEATURE:  
; NAME/KEY: AMIDATION  
; LOCATION: 18  
; OTHER INFORMATION: at the C terminus

## US-10-427-715-13

Query Match 87.1%; Score 101; DB 15; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.9e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICICTR 18

Db 1 GFCRCCLRRGVCRICICTR 18

## RESULT 12

US-10-427-715-24  
; Sequence 24, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 24  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct

## US-10-427-715-24

Query Match 87.1%; Score 101; DB 15; Length 18;  
Best Local Similarity 88.9%; Pred. No. 4.9e-05;  
Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICICTR 18

Db 1 GFCRCRCRTRGFCICICTR 18

## RESULT 13

US-10-721-839-30  
; Sequence 30, Application US/10721839  
; Publication No. US20040086535A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; TITLE OF INVENTION: CATHELICIDINS  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/721,839  
; CURRENT FILING DATE: 2003-11-25  
; PRIOR APPLICATION NUMBER: US/10/060,102  
; PRIOR FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 30  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide

## US-10-721-839-30

Query Match 87.1%; Score 101; DB 15; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.9e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICICTR 18

Db 1 GFCRCCLRRGVCRICICTR 18

Job time : 91.5 secs

## RESULT 14

US-10-427-715-29  
; Sequence 29, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Seilsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 29  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct  
US-10-427-715-29

Query Match 86.2%; Score 100; DB 15; Length 18;  
Best Local Similarity 93.8%; Pred. No. 6.4e-05;  
Matches 15; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCIC 16  
| | | | | | | | | | | | | | | |  
DB 1 GICRCICTRGFCRCIC 16

## RESULT 15

US-10-141-645-5  
; Sequence 5, Application US/10141645  
; Publication No. US20030144184A1  
; GENERAL INFORMATION:  
; APPLICANT: Robert Lehrer  
; APPLICANT: Alan Waring  
; APPLICANT: Alexander Cole  
; APPLICANT: Teresa Hong  
; TITLE OF INVENTION: Retrocyclins - Antiviral and  
; TITLE OF INVENTION: Antimicrobial Peptides  
; FILE REFERENCE: UCLA-001CIP  
; CURRENT APPLICATION NUMBER: US/10/141,645  
; CURRENT FILING DATE: 2002-05-06  
; PRIOR APPLICATION NUMBER: 60/284,855  
; PRIOR FILING DATE: 2001-04-18  
; PRIOR APPLICATION NUMBER: Unassigned  
; PRIOR FILING DATE: 2002-04-18  
; NUMBER OF SEQ ID NOS: 125  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 5  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic variant  
US-10-141-645-5

Query Match 80.2%; Score 93; DB 14; Length 18;  
Best Local Similarity 77.8%; Pred. No. 0.00039;  
Matches 14; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICTR 18  
| | | | | | | | | | | | | | | |  
DB 1 GYCRCICGRCICRCICGR 18

Search completed: April 28, 2005, 14:26:50

**THIS PAGE BLANK (not for use)**

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 14:00:51 ; Search time 26 Seconds  
(without alignments)  
66.612 Million cell updates/sec

Title: US-10-009-317A-32  
Perfect score: 116  
Sequence: 1 GFCRCICTRGFCRCICTR 18  
Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues  
Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000  
Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR 79: \*  
1: pir1: \*  
2: pir2: \*  
3: pir3: \*  
4: pir4: \*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	ID	Description
1	87	75.0	18	C59089	theta defensin-1 -
2	64	55.2	76	A59089	theta defensin 1a
3	54.5	47.0	248	E71602	probable integral
4	54	46.6	290	G72858	AcOrf-70 protein -
5	53	45.7	164	T24272	hypothetical prote
6	53	45.7	188	T15651	hypothetical prote
7	52.5	45.3	73	JC1066	trypsin inhibitor
8	51	44.0	72	TIW8	trypsin inhibitor
9	51	44.0	419	S69207	vascular endotheli
10	50.5	43.5	83	S07405	proteinase inhibit
11	50.5	43.5	94	JC2225	Bowman-Birk protei
12	50.5	43.5	103	TI5VC2	proteinase inhibit
13	50	43.1	624	S54581	probable membrane
14	49	42.2	152	T18975	hypothetical prote
15	49	42.2	157	A25964	thyroglobulin - ra
16	49	42.2	1700	S08167	Balbain ring 3 pr
17	48	41.4	72	TI2B1P	proteinase inhibit
18	48	41.4	78	TI2B1A	proteinase inhibit
19	48	41.4	79	TI2B2	proteinase inhibit
20	48	41.4	83	S07941	proteinase inhibit
21	48	41.4	102	TI5YD2	proteinase inhibit
22	48	41.4	160	T25185	hypothetical prote
23	48	41.4	306	S32834	hypothetical prote
24	48	41.4	476	JC5042	G protein-coupled
25	48	41.4	1353	JH0675	restictin precurs
26	47.5	40.9	77	T48725	Q300 protein - mou
27	47	40.9	550	PQ0618	hypothetical prote
28	47	40.5	113	S56648	trypsin inhibitor
29	47	40.5	317	JC7597	chondromodulin-I 1

30	47	40.5	317	2	JC7603	tenomodulin - mous
31	47	40.5	2195	2	T34264	hypothetical prote
32	47	40.5	2946	2	T15840	hypothetical prote
33	47	40.5	3191	2	T22945	hypothetical prote
34	47	40.5	4660	2	T42737	gp330 protein prec
35	46.5	40.1	141	2	T33983	hypothetical prote
36	46.5	40.1	883	2	T49781	related to mutanas
37	46.5	40.1	3461	2	S58870	reelin precursor -
38	46	39.7	146	2	S09415	proteinase inhibit
39	46	39.7	511	2	T17298	hypothetical prote
40	46	39.7	761	2	T09052	hypothetical prote
41	46	39.7	792	2	C96719	hypothetical prote
42	46	39.7	1251	2	A57293	latent transformat
43	46	39.7	1307	2	G96711	unknown protein, 9
44	46	39.7	1408	2	S16148	gene serrate prote
45	45.5	39.2	222	2	A31685	EF1 protein - fowl

ALIGNMENTS

RESULT 1

C59089  
theta defensin-1 - rhesus macaque  
N;Alternate names: RTD-1  
C;Species: Macaca mulatta (rhesus macaque)  
C;Date: 29-Oct-1999 #sequence\_revision 29-Oct-1999 #text\_change 29-Oct-1999  
C;Accession: C59089  
R;Tang, Y.Q.; Yuan, J.; Osapay, G.; Osapay, K.; Tran, D.; Miller, C.J.; Ouellette, A.J.  
Science 286, 498-502, 1999  
A;Title: A cyclic antimicrobial peptide produced in primate leukocytes by the ligation  
A;Reference number: A59089; MUID:99453140; PMID:10521339  
A;Accession: C59089  
A;Status: preliminary  
A;Molecule type: protein  
A;Residues: 1-18 <SEL>  
A;Note: this sequence is cyclically permuted by -6 residues from the sequence presented  
C;Comment: For the two contributing precursor sequences, see PIR:A59089 and PIR:B59089.  
C;Keywords: antibacterial; antibiotic; antifungal; leukocyte; protein splicing  
F;1-9/Region: theta defensin 1a-derived  
F;10-18/Region: theta defensin 1b-derived  
F;1-18/Cross-link: cyclopeptide (Arg-Cys) #status experimental  
F;2-11,4-9,13-18/Disulfide bonds: #status experimental  
F;9-10/Cross-link: cyclopeptide (Cys-Arg) #status experimental

Query Match 75.0%; Score 87; DB 2; Length 18;  
Best Local Similarity 86.7%; Pred. No. 0.00014;  
Matches 13; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 4 RCICTRGFCRCICTR 18

Db 1 RCICTRGFCRCICLRR 15

RESULT 2

A59089  
theta defensin 1a precursor - rhesus macaque  
C;Species: Macaca mulatta (rhesus macaque)  
C;Date: 29-Oct-1999 #sequence\_revision 29-Oct-1999 #text\_change 09-Jul-2004  
C;Accession: A59089  
R;Tang, Y.Q.; Yuan, J.; Osapay, G.; Osapay, K.; Tran, D.; Miller, C.J.; Ouellette, A.J.  
Science 286, 498-502, 1999  
A;Title: A cyclic antimicrobial peptide produced in primate leukocytes by the ligation  
A;Reference number: A59089; MUID:99453140; PMID:10521339  
A;Accession: A59089  
A;Status: preliminary  
A;Molecule type: mRNA  
A;Residues: 1-76 <TAN>  
A;Cross-references: UNIPROT:P82270; GB:AF191100; NID:G6137227; PIDN:AAF04389.1; PID:G61  
C;Comment: For the complete mature sequence, see PIR:C59089.  
C;Superfamily: mammalian defensin  
C;Keywords: antibacterial; antibiotic; antifungal; leukocyte; protein splicing  
F;1-20/Domain: signal sequence #status predicted <SIG>

F;21-64/Domain: amino-terminal propeptide #status predicted <PRO>  
F;74-76/Domain: carboxyl-terminal propeptide #status predicted <CPR>

Query Match 55.2%; Score 64; DB 2; Length 76;  
Best Local Similarity 83.3%; Pred. No. 0.2;  
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 4 RCICRGFCRCI 15  
|||||  
Db 65 RCICRGFCRLL 76

## RESULT 3

E71602  
Probable integral membrane protein PFB0950w - malaria parasite (Plasmodium falciparum)  
C;Species: Plasmodium falciparum  
C;Date: 13-Nov-1998 #sequence\_revision 13-Nov-1998 #text\_change 09-Jul-2004  
C;Accession: E71602  
R;Gardner, M.J.; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Koonin, E.V.;  
; Pertea, M.; Salzberg, S.; Zhou, L.; Sutton, G.G.; Clayton, R.; White, O.; Smith, H.O.  
Science 282, 1126-1132, 1998  
A;Title: Chromosome 2 sequence of the human malaria parasite Plasmodium falciparum.  
A;Reference number: A71600; MUID:99021743; PMID:9804551  
A;Accession: E71602  
A;Status: preliminary; nucleic acid sequence not shown; translation not shown  
A;Molecule type: DNA  
A;Residues: 1-248 <GAR>  
A;Cross-references: UNIPROT:O96282; GB:AE001428; GB:AE001362; NID:g3845316; PIDN:AAC7197  
A;Experimental source: clone 3D7  
C;Genetics:  
A;Gene: PFB0950w

Query Match 47.0%; Score 54.5; DB 2; Length 248;  
Best Local Similarity 60.0%; Pred. No. 6;  
Matches 9; Conservative 1; Mismatches 2; Indels 3; Gaps 1;

QY 3 CRCICTRGFCRCICT 17  
|||||  
Db 163 CSCICT---CTCICS 174

## RESULT 4

G72858  
AcOrf-70 protein - Autographa californica nuclear polyhedrosis virus  
C;Species: Autographa californica nuclear polyhedrosis virus, AcMPV  
A;Note: dsDNA virus  
C;Date: 12-Nov-1999 #sequence\_revision 12-Nov-1999 #text\_change 09-Jul-2004  
C;Accession: G72858  
R;Ayres, M.D.; Howard, S.C.; Kuzio, J.; Lopez-Perber, M.; Possee, R.D.  
Virology 202, 586-605, 1994  
A;Title: The complete DNA sequence of Autographa californica nuclear polyhedrosis virus.  
A;Reference number: A72850; MUID:94303173; PMID:8030224  
A;Accession: G72858  
A;Status: preliminary  
A;Molecule type: DNA  
A;Residues: 1-290 <AYR>  
A;Cross-references: UNIPROT:P41470; GB:L22858; NID:g510708; PIDN:AAA66700.1; PID:g559139  
C;Genetics:  
A;Gene: AcOrf-70

Query Match 46.6%; Score 54; DB 2; Length 290;  
Best Local Similarity 40.7%; Pred. No. 7.7;  
Matches 11; Conservative 2; Mismatches 4; Indels 10; Gaps 2;

QY 2 FRCICIT-----RGF-CRCICTR 18  
|||||  
Db 218 FARCFCTNTWQCFPRQGYKCEICIR 244

## RESULT 5

T24272  
hypothetical protein T01B7.8 - Caenorhabditis elegans  
C;Species: Caenorhabditis elegans

C;Date: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jul-2004  
C;Accession: T24272  
R;Sims, M.  
submitted to the EMBL Data Library, October 1995  
A;Reference number: Z19867  
A;Accession: T24272  
A;Status: preliminary; translated from GB/EMBL/DBDJ  
A;Molecule type: DNA  
A;Residues: 1-164 <WIL>  
A;Cross-references: UNIPROT:Q22048; EMBL:Z66499; PIDN:CAA91301.1; GSPDB:GN00020; CESP:T  
A;Experimental source: clone T01B7  
C;Genetics:  
A;Gene: CESP:T01B7.8  
A;Map position: 2  
A;Introns: 20/3; 90/2

Query Match 45.7%; Score 53; DB 2; Length 164;  
Best Local Similarity 50.0%; Pred. No. 6.9;  
Matches 9; Conservative 0; Mismatches 9; Indels 0; Gaps 0;

QY 1 GFRCICITRGFCRCICTR 18  
|||||  
Db 80 GCGGCCCCRPKCCCCRR 97

## RESULT 6

T15651  
hypothetical protein C27A2.5 - Caenorhabditis elegans  
C;Species: Caenorhabditis elegans  
C;Date: 20-Sep-1999 #sequence\_revision 20-Sep-1999 #text\_change 09-Jul-2004  
C;Accession: T15651  
R;Nhan, M.  
submitted to the EMBL Data Library, May 1996  
A;Description: The sequence of C. elegans cosmid C27A2.  
A;Reference number: Z18382  
A;Accession: T15651  
A;Status: preliminary; translated from GB/EMBL/DBDJ  
A;Molecule type: DNA  
A;Residues: 1-188 <NHA>  
A;Cross-references: UNIPROT:Q18238; EMBL:U58760; NID:g1330384; PID:g1330389; PIDN:AAB00  
A;Experimental source: strain Bristol N2; clone C27A2  
C;Genetics:  
A;Gene: CESP:C27A2.5  
A;Map position: 2  
A;Introns: 19/3; 91/2

Query Match 45.7%; Score 53; DB 2; Length 188;  
Best Local Similarity 50.0%; Pred. No. 7.6;  
Matches 9; Conservative 0; Mismatches 9; Indels 0; Gaps 0;

QY 1 GFRCICITRGFCRCICTR 18  
|||||  
Db 81 GCGGCCCCRPKCCCCRR 98

## RESULT 7

JC1066  
trypsin inhibitor - mung bean  
C;Species: Vigna radiata (mung bean)  
C;Date: 02-Aug-1995 #sequence\_revision 19-Oct-1995 #text\_change 18-Aug-2000  
C;Accession: JC1066  
R;Chen, C.Q.; Mao, J.F.; Zhang, M.F.; Dai, J.F.  
Chinese J. Biotechnol. 9, 54-60, 1993  
A;Title: Synthesis of mung bean trypsin inhibitor by the combination of the single str  
A;Reference number: JC1066  
A;Accession: JC1066  
A;Molecule type: DNA  
A;Residues: 1-73 <CHE>  
C;Superfamily: Bowman-Birk proteinase inhibitor; Bowman-Birk inhibitor repeat homology  
C;Keywords: serine proteinase inhibitor  
F;2-73/Product: trypsin inhibitor #status predicted <MAT>  
F;14-40/Domain: Bowman-Birk inhibitor repeat homology <BB1>  
F;41-66/Domain: Bowman-Birk inhibitor repeat homology <BB12>

Query Match 45.3%; Score 52.5; DB 2; Length 73;  
 Best Local Similarity 48.0%; Pred. No. 4.6;  
 Matches 12; Conservative 3; Mismatches 1; Indels 9; Gaps 3;  
 QY 3 CR-CICTR---GFCRCI-----CTR 18  
 DB 41 CKSCICTRSMKPKRCCLDTDDFCFK 65

RESULT 8  
 TIMB  
 trypsin inhibitor (Bowman-Birk) - mung bean  
 C:Species: Vigna radiata (mung bean)  
 C:Date: 03-Aug-1984 #sequence\_revision 03-Aug-1984 #text\_change 09-Jul-2004  
 C:Accession: A01301  
 R:Zhang, Y.; Luo, S.; Tan, F.; Qi, Z.; Xu, L.; Zhang, A.  
 Sci. Sin. 25, 268-277, 1982  
 A:Title: Complete amino acid sequence of mung bean trypsin inhibitor.  
 A:Reference number: A01301  
 A:Accession: A01301  
 A:Molecule type: protein  
 A:Residues: 1-72 <2HA>  
 A:Cross-references: UNIPROT:P01062  
 A:Note: three isoinhibitors are also found whose amino ends differ slightly from that of Lys-1, respectively  
 C:Comment: This inhibitor stoichiometrically inhibits trypsin in a molar ratio of 1:2.  
 C:Superfamily: Bowman-Birk proteinase inhibitor; Bowman-Birk inhibitor repeat homology  
 C:Keywords: duplication; serine proteinase inhibitor  
 F:13-39/Domain: Bowman-Birk inhibitor repeat homology <BB1>  
 F:40-65/Domain: Bowman-Birk inhibitor repeat homology <BB2>  
 F:12-66,13-28,16-62,18-26,36-43,40-55,45-53/Disulfide bonds: #status predicted  
 F:20/Inhibitory site: Lys (trypsin) #status predicted  
 F:47/Inhibitory site: Arg (trypsin) #status predicted

Query Match 44.0%; Score 51; DB 1; Length 72;  
 Best Local Similarity 57.9%; Pred. No. 6.8;  
 Matches 11; Conservative 2; Mismatches 2; Indels 4; Gaps 2;  
 QY 3 CR-CICTR---GFCRCICT 17  
 DB 40 CKSCICTRSMKPKRCCLDT 58

RESULT 9  
 S69207  
 vascular endothelial growth factor C precursor - human  
 N:Alternate names: FLT4 ligand DHM  
 C:Species: Homo sapiens (man)  
 C:Date: 27-Apr-1996 #sequence\_revision 01-Nov-1996 #text\_change 09-Jul-2004  
 C:Accession: S69207; S61795; S71443; S69208; G02659  
 R:Joukov, V.; Pajusola, K.; Kaipainen, A.; Chillov, D.; Lahtinen, I.; Kukkk, E.; Saksela, EMO J. 15, 1751, 1996  
 A:Title: Corrigendum: A novel vascular endothelial growth factor, VEGF-C, is a ligand for VEGFR-2  
 A:Reference number: S69207; MUID:96203094; PMID:8612600  
 A:Accession: S69207  
 A:Status: nucleic acid sequence not shown  
 A:Molecule type: mRNA  
 A:Residues: 1-419 <JOU>  
 A:Cross-references: UNIPROT:P49767; EMBL:X94216; NID:g1177488; PIDN:CAA63907.1; PID:e221  
 A:Note: the nucleotide sequence was submitted to the EMBL Data Library, December 1995  
 A:Note: only a part of the translation is shown  
 A:Note: this is a revision to the sequence from reference S61795  
 R:Joukov, V.; Pajusola, K.; Kaipainen, A.; Chillov, D.; Lahtinen, I.; Kukkk, E.; Saksela, EMO J. 15, 290-298, 1996  
 A:Title: A novel vascular endothelial growth factor, VEGF-C, is a ligand for the Flt4 (V) tyrosine kinase  
 A:Reference number: S61795; MUID:96178224; PMID:8617204  
 A:Accession: S61795  
 A:Status: nucleic acid sequence not shown; not compared with conceptual translation  
 A:Molecule type: mRNA  
 A:Residues: 70-419 <JOU1>  
 A:Note: this sequence has been revised in reference S69207  
 A:Accession: S71443

A:Molecule type: protein  
 A:Residues: 'X',104-120 <JOU2>  
 R:Lee, J.; Gray, A.; Yuan, J.; Luch, S.M.; Avraham, H.; Wood, W.I.  
 submitted to the EMBL Data Library, December 1995  
 A:Description: Vascular endothelial growth factor related protein (VRP): A ligand and a  
 A:Reference number: S69208  
 A:Accession: S69208  
 A:Molecule type: mRNA  
 A:Residues: 1-419 <LEE>  
 A:Cross-references: EMBL:U43142; NID:g1150988; PIDN:AAA85214.1; PID:g1150989  
 R:Morris, J.C.  
 submitted to the EMBL Data Library, May 1996  
 A:Reference number: H01557  
 A:Accession: G02659  
 A:Status: preliminary; translated from GB/EMBL/DBDJ  
 A:Molecule type: mRNA  
 A:Residues: 1-419 <MOR>  
 A:Cross-references: EMBL:U58111; NID:g1373426; PIDN:AAB02909.1; PID:g1373427  
 C:Genetics:  
 A:Gene: GDB:VEGFC; VRP  
 A:Cross-references: GDB:3890883; OMIM:601528  
 F:1-12/Domain: signal sequence #status predicted <SIG>  
 F:13-102/Domain: propeptide #status predicted <PRO>  
 F:103-419/Product: vascular endothelial growth factor C #status experimental <MAT>

Query Match 44.0%; Score 51; DB 2; Length 419;  
 Best Local Similarity 36.0%; Pred. No. 22;  
 Matches 9; Conservative 2; Mismatches 4; Indels 10; Gaps 1;

QY 3 CRCICTR-----GFCRCICT 17

DB 339 CQCCKRTCPRNQPLNPKACACECT 363

## RESULT 10

S07405

proteinase inhibitor (Bowman-Birk) C-II - soybean

C:Species: Glycine max (soybean)

C:Date: 02-Dec-1993 #sequence\_revision 03-Nov-1995 #text\_change 09-Jul-2004

C:Accession: S07405; S29608; S40113

R:Joudrier, P.E.; Foard, D.E.; Floener, L.A.; Larkins, B.A.

Plant Mol. Biol. 10, 35-42, 1987

A:Title: Isolation and sequence of cDNA encoding the soybean protease inhibitors PI IV

A:Reference number: S07405

A:Accession: S07405

A:Status: preliminary

A:Molecule type: mRNA

A:Residues: 1-83 <JOU>

A:Cross-references: UNIPROT:P01063; EMBL:M20732; NID:g169944; PIDN:AAA33953.1; PID:g1699

A:Note: the sequences of codons 8-13 and 14-27 are interchanged in the authors' transla

R:Baek, J.M.; Kim, S.I.

submitted to the EMBL Data Library, October 1992

A:Description: Nucleotide sequence of a cDNA encoding the soybean Bowman-Birk proteinase

A:Reference number: S29559

A:Accession: S29608

A:Status: preliminary

A:Molecule type: mRNA

A:Residues: 1-83 <BAE>

A:Cross-references: EMBL:X68705; NID:g18567; PIDN:CAA4856.1; PID:g18568

R:Giordano, A.; Delledonne, M.; Fogher, C.; Marchetti, S.

submitted to the EMBL Data Library, December 1993

A:Description: Nucleotide sequence encoding a soybean C-II proteinase inhibitor.

A:Reference number: S40113

A:Accession: S40113

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-83 <GIO>

A:Cross-references: EMBL:X76727; NID:g436413; PIDN:CAAS4144.1; PID:g436414

C:Superfamily: Bowman-Birk proteinase inhibitor; Bowman-Birk inhibitor repeat homology

C:Keywords: serine proteinase inhibitor

F:22-48/Domain: Bowman-Birk inhibitor repeat homology <BB1>

F:49-74/Domain: Bowman-Birk inhibitor repeat homology <BB12>

Query Match 43.5%; Score 50.5; DB 2; Length 83;  
Best Local Similarity 58.8%; Pred. No. 8.6;  
Matches 10; Conservative 1; Mismatches 3; Indels

Qy	4 RCICTR--GFCRCICT	17
Db	51 RCACTRSMFGQCRLDT	67

**RESULT 11**

JC2225  
 Bowman-Birk proteinase isoinhibitor C-II precursor (clone pB24) - soybean  
 C-Species: Glycine max (soybean)  
 C-Date: 28-Aug-1985 #sequence\_revision 07-Oct-1994 #text\_change 18-Aug-2000  
 C-Accession: JC2225  
 J.C.; Choi, Y.D.; Kim, S.I.  
 R:Baek, J.M.; Song, Biochem. 58, 843-846, 1994  
 Biosci. Biotechnol.  
 A-Title: Nucleotide sequence homology of cDNAs encoding soybean Bowman-Birk type proteinase  
 A-Reference number: JC2224, MUID:94289861; PMID:7764974  
 A-Accession: JC2225  
 A-Molecule type: mRNA  
 A-Residues: 1-94 <BAE>  
 C-Comment: This protein regulates endogenous proteinase during germination, stores sulf

Query Match 43.5%; Score 50.5; DB 2; Length 94;  
Best Local Similarity 58.8%; Pred. No. 9.4;  
Matches 10; Conservative 1; Mismatches 3; Indels

Qy		4	R C I C T R -- G F C R C I C T	17
D b		62	R C A C T R S M P G Q C R C L D T	78

## RESULT 12

T15YC2  
 proteinase inhibitor (Bowman-Birk) C-II precursor - soybean  
 C:Species: Glycine max (soybean)  
 C:Date: 24-Apr-1984 #sequence\_revision 31-Dec-1993 #text\_change 09-Jul-2004  
 C:Accession: A22636; A01302  
 R:Hammond, R.W.; Foard, D.E.; Larkins, B.A.  
 J. Biol. Chem. 259, 9883-9890, 1984  
 A:Title: Molecular cloning and analysis of a gene coding for the Bowman-Birk protease in  
 A:Reference number: A92489; PMID:84264652; PMID:6086657  
 A:Contents: annotation  
 A:Note: the sequence has been revised in reference A92540  
 R:Hammond, R.W.; Foard, D.E.; Larkins, B.A.  
 J. Biol. Chem. 260, 7806, 1985  
 A:Reference number: A92540

F:42-68/Domain: Bowman-Birk inhibitor repeat homology <BB1>  
F:69-94/Domain: Bowman-Birk inhibitor repeat homology <BB2>  
F:41-95,42-57,45-91,47-55,65-72,69-84,74-82/Disulfide bonds: #status predicted  
F:49/Inhibitory site: Ala (elastase) #status predicted  
F:76/Inhibitory site: Arg (trypsin) #status experimental

Query Match 43.5%; Score 50.5; DB 1; Length 103;  
Best Local Similarity 58.8%; Pred. No. 10;  
Matches 10; Conservative 1; Mismatches 3; Indels 3; Gaps 1;

Qy 4 RCICTR--GFCRCICT 17  
|| ||| | ||| |  
Db 71 RCACTRSMPGQCRCCLDT 87

RESULT 13

S54581  
probable membrane protein YMR119w - yeast (*Saccharomyces cerevisiae*)  
N;Alternate names: hypothetical protein YM8554.01; hypothetical protein YMR119w  
C;Species: *Saccharomyces cerevisiae*  
C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C;Accession: S54581; S54488  
R;Hunt, S.; Bowman, S.  
submitted to the EMBL Data Library, May 1995  
A;Reference number: S54510  
A;Accession: S54581  
A;Molecule type: DNA  
A;Residues: 1-431 <HUN>  
A;Cross-references: UNIPROT:P54074; EMBL:Z49702; NID:g817859; PID:g1326013; GSPDB  
A;Experimental source: strain AB972  
R;Lye, G.; Churcher, C.M.  
submitted to the EMBL Data Library, May 1995

Query Match	43.1%;	Score 50;	DB 1;	Length 624;
Best Local Similarity	42.3%;	Pred. No. 39;		
Matches 11: Conservative	1;	Mismatches 4;	Indels 10;	Gaps 2;

Qy 3 CRC--IC-----TRGFCRCICTR 18  
||| || ||| ||| : |||  
Db 583 CRCFAICEDCRISLGLRGFSTCVCCR 608

RESIT.T 14

R3301 14  
 T18975  
 hypothetical protein C06A1.6 - *Caenorhabditis elegans*  
 C:Species: *Caenorhabditis elegans*  
 C:Date: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jul-2004  
 C:Accession: T18975  
 R:McMurray, A.  
 submitted to the EMBL Data Library, June 1995  
 A:Reference number: Z19054  
 A:Accession: T18975  
 A:Status: preliminary; translated from GB/EMBL/DBDJ  
 A:Molecule type: DNA  
 A:Residues: 1-152 <WIL>  
 A:Cross-references: UNIPROT:Q9XVX3; EMBL:Z49886; PIDN:CAA90055.1; GSPDB:GN0  
 A:Experimental source: clone C06A1  
 C:Genetics:



A:Gene: CBSP:C06A1.6  
A:Map position: 2  
A:Introns: 22/3

Query Match 42.2%; Score 49; DB 2; Length 152;  
Best Local Similarity 50.0%; Pred. No. 20;  
Matches 8; Conservative 0; Mismatches 8; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCIC 16  
| | | | | | | | | |  
DB 67 GCGCCCCCRPRCCCC 82

# RESULT 15

A25964  
thyroglobulin - rat (fragments)  
C:Species: Rattus norvegicus (Norway rat)  
C>Date: 20-Jun-1989 #sequence\_revision 30-Jun-1991 #text\_change 11-Apr-1997  
C:Accession: A25964  
R:Musci, A.M.; Avvedimento, E.V.; Polistina, C.; Ursini, V.M.; Obici, S.; Nitsch, L.; C  
Proc. Natl. Acad. Sci. U.S.A. 83, 323-327, 1986  
A:Title: The complete structure of the rat thyroglobulin gene.  
A:Reference number: A25964; MUID:86094383; PMID:3455768  
A:Accession: A25964  
A:Molecule type: DNA  
A:Residues: 1-157 <MUS>  
A:Cross-references: GB:M12558  
A>Note: the authors translated the codon GTG for residue 44 as Leu  
C:Superfamily: thyroglobulin; cholinesterase homology; thyroglobulin type I repeat homol  
C:Keywords: dimer; glycoprotein; iodine; thyroid gland; thyroid hormone biosynthesis  
F:35-60/Domain: thyroglobulin type I repeat homology (fragment) <THY1>  
F:134-138/Domain: thyroglobulin type I repeat homology (fragment) <THY2>  
F:25/Modified site: thyroxine (Tyr) #status predicted

Query Match 42.2%; Score 49; DB 2; Length 157;  
Best Local Similarity 32.0%; Pred. No. 20;  
Matches 8; Conservative 4; Mismatches 5; Indels 8; Gaps 1;

QY 1 GFCRCIC-----TRGFCRCICT 17  
| | | | | | | | | |  
DB 110 GECWCVCSPFPVPTCTSEGEYCVCVCS 134

Search completed: April 28, 2005, 14:22:37  
Job time : 28 secs

**THIS PAGE BLANK (88716)**

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 13:58:25 ; Search time 114 Seconds  
(without alignments)  
80.855 Million cell updates/sec

Title: US-10-009-317A-32

Perfect score: 116

Sequence: 1 GFCRCICTRGFCRCICTR 18

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Uniprot\_03:\*

1: uniprot\_sprot:\*

2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	64	55.2	76	1 TD1A MACMU	P82270 macaca mula
2	59	50.9	168	2 Q6P8T4	Q6P8T4 mus musculus
3	59	50.9	168	2 Q8CH20	Q8CH20 mus musculus
4	59	50.9	168	2 Q9D912	Q9D912 mus musculus
5	59	50.9	173	2 Q9DAK2	Q9DAK2 mus musculus
6	59	50.9	274	2 Q949G1	Q949G1 oryza sativ
7	56.5	48.7	163	2 Q8VU20	Q8VJ20 mycobacteri
8	56	48.3	937	2 Q9BLJ1	Q9BLJ1 ciona intes
9	54.5	47.0	307	2 Q96282	Q96282 plasmodium
10	54	46.6	290	1 Q707 NPVAC	P41470 autographa
11	54	46.6	991	2 Q7SE02	Q7SE02 neurospora
12	53.5	46.1	174	2 Q9NRB6	Q9NRB6 homo sapien
13	53	45.7	164	2 Q22048	Q22048 caenorhabdi
14	53	45.7	166	2 Q95QY1	Q95QY1 caenorhabdi
15	53	45.7	188	2 Q18238	Q18238 caenorhabdi
16	53	45.7	197	2 Q17641	Q17641 caenorhabdi
17	53	45.7	602	2 Q75NZ5	Q75NZ5 chlamydomon
18	53	45.7	1365	2 Q75N88	Q75N88 homo sapien
19	53	45.7	2871	2 Q75N87	Q75N87 homo sapien
20	52.5	45.3	129	2 Q7FU70	Q7FU70 anopheles g
21	52.5	45.3	273	2 Q94U26	Q94U26 leishmania
22	52.5	45.3	512	2 Q6RY99	Q6RY99 rattus norv
23	52	44.8	66	2 Q9PXQ3	Q9PXQ3 xestia c-ni
24	52	44.8	146	2 Q7QBV4	Q7QBV4 anopheles g
25	52	44.8	161	2 Q8MZ55	Q8MZ55 drosophila
26	52	44.8	1823	2 Q7PRP5	Q7PRP5 anopheles g
27	51.5	44.4	190	2 Q9UI23	Q9UI23 homo sapien
28	51	44.0	59	2 Q6IG37	Q6IG37 drosophila
29	51	44.0	72	1 IBB PHAAU	P01062 phaseolus a
30	51	44.0	201	2 Q6QGS2	Q6QGS2 homo sapien
31	51	44.0	326	2 Q91ZHE	Q91ZHE meriones un

32	51	44.0	336	2	Q7PVN9	Q7PVN9 anopheles g
33	51	44.0	415	1	VEGC MOUSE	P97953 mus musculu
34	51	44.0	415	2	Q91ZE3	Q91ZE3 rattus norv
35	51	44.0	419	1	VEGC HUMAN	P49767 homo sapien
36	51	44.0	482	2	Q6A1N6	Q6A1N6 euplotes va
37	50.5	43.5	83	1	IBB2 SOYBN	P01063 glycine max
38	50.5	43.5	91	2	Q8LC92	Q8LC92 arabidopsis
39	50.5	43.5	109	2	Q8RU22	Q8RU22 glycine soj
40	50.5	43.5	168	2	Q87BL8	Q87BL8 xylella fas
41	50.5	43.5	222	2	Q6VZ23	Q6VZ23 canarypox v
42	50.5	43.5	379	2	Q7SKV0	Q7SKV0 brachydanio
43	50.5	43.5	1411	2	Q7S1G4	Q7S1G4 neurospora
44	50	43.1	66	2	Q9AVA3	Q9AVA3 pisum sativ
45	50	43.1	212	2	Q7YVW7	Q7YVW7 caenorhabdi

#### ALIGNMENTS

#### RESULT 1

TD1A MACMU STANDARD; PRT; 76 AA.  
AC P82270: Q9TU01;  
DT 25-OCT-2004 (Rel. 45, Created)  
DT 25-OCT-2004 (Rel. 45, Last sequence update)  
DT 25-OCT-2004 (Rel. 45, Last annotation update)  
DE Theta defensin-1, subunit A precursor (RTD-1a) (Demidefensin 2).  
GN Name=RTD1A;  
OS Macaca mulatta (Rhesus macaque).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;  
OC Cercopithecinae; Macaca.  
OX NCBI\_TaxID=9544;  
RN [1]  
RP SEQUENCE FROM N.A. SEQUENCE OF 65-73. TISSUE SPECIFICITY,  
RP DEVELOPMENTAL STAGE, AND DISULFIDE BONDS.  
RC TISSUE=Bone marrow, and Leukocyte;  
RX MEDLINE=94453140; PubMed=10521339; DOI=10.1126/science.286.5439.498;  
RA Tang Y.-Q., Yuan J., Oesapay G., Oesapay K., Tran D., Miller C.J.,  
RA Ouellette A.J., Selsted M.E.;  
RT "A cyclic antimicrobial peptide produced in primate leukocytes by the  
RT ligation of two truncated alpha-defensins.";  
RL Science 286:498-502(1999).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Bone marrow;  
RA Zhao C., Nguyen T., Lehrer R.I.;  
RT "CDNA cloning of three alpha-defensins and three demidefensins from  
RL rhesus monkey bone marrow.";  
RL Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Active against the Gram-positive bacteria *S. typhimurium* and *E. coli*  
CC L. monocytogenes, Gram-negative bacteria *C. neoformans* in vitro.  
CC ML35 and fungi *C. albicans* and *C. neoformans* in vitro.  
CC -!- SUBUNIT: Forms a cyclic heterodimer composed of subunits A and B;  
CC disulfide-linked.  
CC -!- TISSUE SPECIFICITY: Expressed in bone marrow. Detected in  
CC promyelocytes, myelocytes and mature neutrophils and monocytes.  
CC -!- DEVELOPMENTAL STAGE: Expression begins early during granulocyte  
CC myelopoiesis.  
CC -!- PTM: This is a cyclic peptide.  
CC -!- SIMILARITY: Belongs to the corticostatin/defensin family.  
CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use by non-profit institutions as long as its content is in no way  
CC modified and this statement is not removed. Usage by and for commercial  
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>  
CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
CC -----  
CC EMBL; AF191100; AAF04389.1; -;  
CC EMBL; AF191102; AAF04391.1; -;  
CC EMBL; AF184157; AAF07924.1; -;

```

DR PIR; A59089; A59089.
DR InterPro; IPR002366; Defensin_propep.
DR Pfam; PF00879; Defensin_propep; 1.
DR PROSITE; PS00269; DEFENSIN; FALSE NEG.
KW Antibiotic; Defensin; Direct protein sequencing; Fungicide; Signal.
FT SIGNAL 1 22 Potential.
FT PROPEP 23 64
FT PEPTIDE 65 73 Theta defensin-1, subunit A.
FT PROPEP 74 76
FT DISULFID 66 66 Interchain (with C-66 of subunit B).
FT DISULFID 68 73
FT CONFLICT 38 38 T -> A (in Ref. 2).
FT SEQUENCE 76 AA; 8242 MW; BEA207932A030590 CRC64;

Query Match 55.2%; Score 64; DB 1; Length 76;
Best Local Similarity 83.3%; Pred. No. 0.34;
Matches 10; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 4 RCICTRGFCRCI 15
DB 65 RCICTRGFCRL 76

RESULT 2
Q6P8T4 PRELIMINARY; PRT; 168 AA.
AC Q6P8T4;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE 4931420D14Rik protein.
GN Name=4931420D14Rik;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RA Xu X., Bai X., Silvius D., Escalier D., McFarland L., Xu P.-X.;
RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF463502; AAO15675.1; -
DR MGD; MGI:1913992; 4931420D14Rik.
SQ SEQUENCE 168 AA; 18957 MW; 8F30D3D27B9BF595 CRC64;

Query Match 50.9%; Score 59; DB 2; Length 168;
Best Local Similarity 56.2%; Pred. No. 2.9;
Matches 9; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 3 RCICTRGFCRCICTR 18
DB 66 CRCCVCRCRCCSR 81

RESULT 4
Q9D9I2 PRELIMINARY; PRT; 168 AA.
AC Q9D9I2;
DT 01-JUN-2001 (TrEMBLrel. 17, Created)
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
DE Mus musculus adult male testis cDNA, RIKEN full-length enriched
DE library, clone:1700065I05 product:hypothetical Cysteine-rich region
DE containing protein, full insert sequence.
GN Name=4931420D14Rik;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RC MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
RA Carninci P., Hayashizaki Y.;
RA "high-efficiency full-length cDNA cloning.";
RL Meth. Enzymol. 303:19-44(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RC MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RA RIKEN FANTOM Consortium;
RA "Functional annotation of a full-length mouse cDNA collection.";
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RA The FANTOM Consortium.
RA The RIKEN Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs.";
RL Nature 420:563-573(2002).
RN [4]

```



DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)  
DE Hypothetical protein C1SERIPDM.  
GN Name=C1SERIPDM;  
OS Oryza sativa (Rice).  
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;  
OC Ehrhartoideae; Oryzeae; Oryza.  
OX NCBI\_TaxID=4530;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=21329048; PubMed=11435398; DOI=10.1101/gr.GR-1617R;  
RA Mayer K., Murphy G., Tarchini W., Wambolt R., Volckaert G., Pohl T.,  
RA Duesterhoeft A., Stiekema W., Entian K.D., Terry N., Lemcke K.,  
RA Haase D., Hall C.R., van Dodeleerd A.M., Tingey S.V., Mewes H.W.,  
RA Bevan M., Bancroft I.;  
RT "Conservation of microstructure between a sequenced region of the  
RT genome of rice and multiple segments of the genome of Arabidopsis  
RT thaliana.";  
RL Genome Res. 11:1167-1174(2001).  
DR EMBL; AJ070662; CAC39030.1; -;  
DR Gramene; Q949G1; -;  
KW Hypothetical protein.  
SQ SEQUENCE 274 AA; 28657 MW; AB547D9BD5470AE1 CRC64;  
Query Match 50.9%; Score 59; DB 2; Length 274;  
Best Local Similarity 66.7%; Pred. No. 4.3;  
Matches 10; Conservative 0; Mismatches 5; Indels 0; Gaps 0;  
QY 4 RCICTRGFCRCICTR 18  
DB 185 RCCHRGCCRCRATR 199  
RESULT 7  
Q8VJ20 PRELIMINARY; PRT; 163 AA.  
AC Q8VJ20  
DT 01-MAR-2002 (TrEMBLrel. 20, Created)  
DT 01-MAR-2002 (TrEMBLrel. 20, Last sequence update)  
DT 01-MAR-2002 (TrEMBLrel. 20, Last annotation update)  
DE Hypothetical protein.  
GN OrderedLocustNames=WT3454;  
OS Mycobacterium tuberculosis.  
OC Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;  
OC Corynebacterineae; Mycobacteriaceae; Mycobacterium.  
OX NCBI\_TaxID=1773;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX STRAIN=CDC 1551 / Oshkosh;  
RC MEDLINE=22206494; PubMed=12218036;  
RX DOI=10.1128/JB.184.19.5479-5490.2002;  
RA Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,  
RA Peterson J.D., DeBoy R.T., Dodson R.J., Gwinn M.L., Haft D.H.,  
RA Hickey E.K., Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D.,  
RA Salzberg S.L., Delcher A., Uterback T.R., Weidman J.F., Khouri H.M.,  
RA Gill J., Mikula A., Bishai W., Jacobs W.R. Jr., Venter J.C.,  
RA Fraser C.M.;  
RT "Whole-genome comparison of Mycobacterium tuberculosis clinical and  
RT laboratory strains.";  
RL J. Bacteriol. 184:5479-5490(2002).  
DR EMBL; AE000516; AAK47795.1; -;  
DR TIGR; MT3454; -;  
KW Hypothetical protein.  
SQ SEQUENCE 163 AA; 18621 MW; B5E62AB951B2AC3C CRC64;  
Query Match 48.78%; Score 56.5; DB 2; Length 163;  
Best Local Similarity 60.08; Pred. No. 5.8;  
Matches 9; Conservative 3; Mismatches 2; Indels 1; Gaps 1;  
QY 3 RCICTR-GFCRCIC 16  
DB 137 CRHVCTRSYGVRLVC 151

RESULT 8  
Q9BLJ1 PRELIMINARY; PRT; 937 AA.  
AC Q9BLJ1  
DT 01-JUN-2001 (TrEMBLrel. 17, Created)  
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
DE Ci-METAL.  
GN Name=Ci-metal;  
OS Ciona intestinalis.  
OC Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;  
OC Phlebobranchia; Clonidae; Ciona.  
OX NCBI\_TaxID=7719;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=21347414; PubMed=11455433;  
RA Nakayama A., Satoh Y., Satoh N.;  
RT "Isolation and characterization of genes that are expressed during  
RT Ciona intestinalis metamorphosis.";  
RL Dev. Genes Evol. 211:184-189(2001).  
DR EMBL; AB041857; BAB40596.1; -;  
DR HSSP; P00743; ICCF.  
DR GO; GO:0016020; C:membrane; IEA.  
DR GO; GO:0005509; F:calcium ion binding; IEA.  
DR GO; GO:0004888; F:transmembrane receptor activity; IEA.  
DR GO; GO:0007596; P:blood coagulation; IEA.  
DR InterPro; IPR000152; Asx\_hydroxyl\_S.  
DR InterPro; IPR000742; EGF\_2.  
DR InterPro; IPR001881; EGF\_Ca.  
DR InterPro; IPR006209; EGF\_like.  
DR InterPro; IPR001212; Somatomedin\_B.  
DR InterPro; IPR001491; Thrombomodulin.  
DR Pfam; PF00008; EGF; 4.  
DR Pfam; PF07645; EGF\_Ca; 14.  
DR PRINTS; PR00022; SOMATOMEDINB.  
DR PRINTS; PR00907; THROMBOMODULN.  
DR SMART; SM00179; EGF\_Ca; 14.  
DR PROSITE; PS00010; ASX\_HYDROXYL; 14.  
DR PROSITE; PS00022; EGF\_1; 1.  
DR PROSITE; PS01186; EGF\_2; 19.  
DR PROSITE; PS00026; EGF\_3; 19.  
DR PROSITE; PS01187; EGF\_Ca; 12.  
DR PROSITE; PS00524; SMB\_1; 1.  
DR EGF-like domain.  
KW EGF-like domain.  
SQ SEQUENCE 937 AA; 101043 MW; 8C57830C8E391D07 CRC64;  
Query Match 48.3%; Score 56; DB 2; Length 937;  
Best Local Similarity 58.8%; Pred. No. 29;  
Matches 10; Conservative 1; Mismatches 6; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCIC 17  
DB 552 GSYRCICARGFGSLCT 568  
RESULT 9  
O96282 PRELIMINARY; PRT; 307 AA.  
ID O96282  
AC O96282;  
DT 01-MAY-1999 (TrEMBLrel. 10, Created)  
DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
DE Hypothetical protein PFB0950W.  
GN Name=PFB0950W;  
OS Plasmodium falciparum (isolate 3D7).  
OC Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium.  
OX NCBI\_TaxID=36329;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=99021743; PubMed=9804551; DOI=10.1126/science.282.5391.1126;  
RA Gardner M.J., Tettelin H., Carucci D.J., Cummings L.M., Aravind L.,  
RA Koonin E.V., Shalloom S., Mason T., Yu K., Fujii C., Pederson J.,

RA Shen K., Jing J., Aston C., Lai Z., Schwartz D.C., Pertea M.,  
RA Salzberg S., Zhou L., Sutton G.G., Clayton R., White O., Smith H.O.,  
RA Fraser C.M., Adams M.D., Venter J.C., Hoffman S.L.;  
RT "Chromosome 2 sequence of the human malaria parasite Plasmodium  
RL falciparum.";  
RN Science 282:1126-1132(1998).  
RP [2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=2255705; PubMed=12368864; DOI=10.1038/nature01097;  
RA Gardner M.J., Hall N., Fung E., White O., Berriman M., Hyman R.W.,  
RA Carlton J.M., Pain A., Nelson K.E., Bowman S., Paulsen I.T., James K.,  
RA Eisen J.A., Rutherford K., Salzberg S.L., Craig A., Kyes S.,  
RA Chan M.-S., Nene V., Shallow S.J., Suh B., Peterson J., Angiuoli S.,  
RA Pertea M., Allen J., Selengut J., Haft D., Mather M.W., Vaidya A.B.,  
RA Martin D.M.A., Fairlamb A.H., Fraunholz M.J., Roos D.S., Ralph S.A.,  
RA McFadden G.I., Cummings L.M., Subramanian G.M., Mungall C.,  
RA Venter J.C., Carucci D.J., Hoffman S.L., Newbold C., Davis R.W.,  
RA Fraser C.M., Barrell B.;  
RT "Genome sequence of the human malaria parasite Plasmodium  
RT falciparum.";  
RL Nature 419:498-511(2002).  
RL EMBL; AE001428; AAC71979.2;  
DR PIR; E71602; E71602.  
DR HSP; P01056; IH34.  
DR InterPro; IPR001368; TNFR\_C6.  
DR PROSITE; PS00652; TNFR\_NGFR\_1; UNKNOWN\_1.  
KW Hypothetical protein.  
SQ SEQUENCE 307 AA; 35537 MW; B95A3DB354D4BE71 CRC64;  
Query Match 47.0%; Score 54.5; DB 2; Length 307;  
Best Local Similarity 60.0%; Pred. No. 18;  
Matches 9; Conservative 1; Mismatches 2; Indels 3; Gaps 1;  
QY 3 CRCICTRGFCRCICT 17  
DB 222 CSGICT---CTGICS 233  
RESULT 10  
Y070 NPVAC STANDARD; PRT; 290 AA.  
AC P41470;  
DT 01-NOV-1995 (Rel. 32, Created)  
DT 01-NOV-1995 (Rel. 32, Last sequence update)  
DE Hypothetical 34.4 kDa protein in LEF3-TAP2 intergenic region.  
OS Autographa californica nuclear polyhedrosis virus (AcMNPV).  
OC Viruses; dsDNA viruses, no RNA stage; Baculoviridae;  
OC Nucleopolyhedrovirus.  
OX NCBI\_TaxID=46015;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX STRAIN=C6;  
RX MEDLINE=94303173; PubMed=8030224;  
RA Ayres M.D., Howard S.C., Kuzio J., Lopez-Ferber M., Possee R.D.;  
RT "The complete DNA sequence of Autographa californica nuclear  
RL polyhedrosis virus.";  
RN Virology 202:586-605(1994).  
CC -----  
CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use by non-profit institutions as long as its content is in no way  
CC modified and this statement is not removed. Usage by and for commercial  
CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>  
CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
CC -----  
CC EMBL; L22858; AAA66700.1; -;  
DR PIR; G72858;  
DR InterPro; IPR000519; P\_trefol.  
KW Hypothetical protein.  
SQ SEQUENCE 290 AA; 34408 MW; CA78BA9C8B5AB997 CRC64;

Query Match 46.6%; Score 54; DB 1; Length 290;  
Best Local Similarity 40.7%; Pred. No. 19;  
Matches 11; Conservative 2; Mismatches 4; Indels 10; Gaps 2;  
QY 2 FCRICIT-----RGF-CRCICTR 18  
DB 218 FARCFCTNTWCFCPRGQYKCEICRR 244  
RESULT 11  
Q7SEQ2 PRELIMINARY; PRT; 991 AA.  
AC Q7SEQ2;  
DT 01-MAR-2004 (TrEMBLrel. 26, Created)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last sequence update)  
DE Predicted protein.  
DE Name=NCU02165.1;  
GN Neurospora crassa.  
OS Eukaryota; Fungi; Ascomycota; Pezizomycotina; Sordariomycetes;  
OC Sordariomycetidae; Sordariales; Sordariaceae; Neurospora.  
OX NCBI\_TaxID=5141;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=OR74A;  
RA Galagan J.E., Calvo S.E., Borkovich K.A., Selker E.U., Read N.D.,  
RA Jaffe D., FitzHugh W., Ma L.-J., Smirnov S., Purcell S., Rehm B.,  
RA Elkins T., Engels R., Wang S., Nielsen C.B., Butler J., Endrizzi M.,  
RA Qui D., Ianakiev P., Pedersen D., Nelson M., Washburne M.,  
RA Salizemnikoff C.P., Kinsey J.A., Braun E.L., Zelter A., Schulte U.,  
RA Kothe G.O., Jedd G., Mewes W., Staben C., Marcotte E., Greenberg D.,  
RA Roy A., Foley K., Naylor J., Thomann N., Barrett R., Gnerre S.,  
RA Kamal M., Kamysysselis M., Maucelli E., Bielke C., Rudd S., Frishman D.,  
RA Krystofova S., Rasmussen C., Metzberg R.L., Perkins D.D., Kroken S.,  
RA Cogoni C., Macino G., Catchside D., Li W., Pratt R.J., Osmani S.A.,  
RA Desouza C.C., Glass L., Orbach M.J., Berglund J., Voelker R.,  
RA Yarden O., Plamann M., Seiler S., Dunlap J., Radford A., Aramayo R.,  
RA Natvig D.O., Alex L.A., Mannhaupt G., Ebbole D.J., Freitag M.,  
RA Paulsen I., Sachs M.S., Lander E.S., Nusbaum C., Birren B.;  
RT "The Genome Sequence of the Filamentous Fungus Neurospora crassa.";  
RL Nature 0:0-0(2003).  
CC -!- CAUTION: The sequence shown here is derived from an  
CC EMBL/GenBank/DBJ whole genome shotgun (WGS) entry which is  
CC preliminary data.  
CC EMBL; AABX01000029; EAA35288.1; -;  
DR InterPro; IPR006209; EGF like.  
DR PROSITE; PS00022; EGF\_1; 1.  
DR PROSITE; PS01186; EGF\_2; 1.  
SQ SEQUENCE 991 AA; 103024 MW; C51719B9F4D54A8E CRC64;  
Query Match 46.6%; Score 54; DB 2; Length 991;  
Best Local Similarity 56.2%; Pred. No. 55;  
Matches 9; Conservative 0; Mismatches 7; Indels 0; Gaps 0;  
QY 1 GFCRCICTRGFCRCIC 16  
DB 620 GFCSCICRNGFTGFCNC 635  
RESULT 12  
Q9NRB6 PRELIMINARY; PRT; 174 AA.  
AC Q9NRB6;  
DT 01-OCT-2000 (TrEMBLrel. 15, Created)  
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)  
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)  
DE Mutant fibroblast growth factor receptor 3 (fragment).  
GN Name=FGFR3;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]

```

RP SEQUENCE FROM N.A.
RA Chesi M., Brents L.A., Ely S.A., Bais C., Mesri E.A., Robbiani D.,
RA Kuehl W.M., Bergsgel P.L.;
RL Submitted (FEB-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF236374; AAF97749.1; -.
DR GO; GO:0004872; F:receptor activity; IEA.
KW Receptor.
FT NON_TER 1 1
SQ SEQUENCE 174 AA; 17810 MW; BC9917B34470B9EA CRC64;

Query Match 46.1%; Score 53.5; DB 2; Length 174;
Best Local Similarity 47.1%; Pred. No. 15;
Matches 8; Conservative 2; Mismatches 4; Indels 3; Gaps 1;

QY 1 GFCRCICTRGFCRCICT 17
Db 75 GLCVCVCV---CVCVCT 88

RESULT 13
Q22048 PRELIMINARY; PRT; 164 AA.
AC Q22048;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Hypothetical protein T01B7.8.
GN ORFNames=T01B7.8;
OS Caenorhabditis elegans.
OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
OC Rhabditidae; Peloderinae; Caenorhabditis.
OX NCBI_TaxID=6239;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RX MEDLINE=99069613; PubMed=9851916;
RG WormBase Consortium;
RT "Genome sequence of the nematode C. elegans: A platform for
RT investigating biology."
RL Science 282:2012-2018(1998).
RN [2]
RA Waterston R.;
RC STRAIN=Bristol N2;
RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.
RN [4]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RA Wilson R.;
RC STRAIN=Bristol N2;
RL Submitted (JUL-2004) to the EMBL/GenBank/DBJ databases.
RN [5]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RG WormBase Consortium;
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; U55854; AAK68158.1; -.
DR HSSP; P10969; 1WGT.
DR WormBase; WBGene00015458; C04G6.10.
DR WormPep; C04G6.10; CE27649.
DR InterPro; IPR001450; 4Fe4S_ferredoxin.
DR InterPro; IPR006081; Defensin_alpha.
DR InterPro; IPR006209; EGF_like.
DR InterPro; IPR001007; VWF_C.
DR PROSITE; PS00198; 4FE4S_FERREDOXIN; UNKNOWN_1.
DR PROSITE; PS00269; DEFENSIN; UNKNOWN_1.
DR PROSITE; PS00022; EGF_1; UNKNOWN_1.
DR PROSITE; PS01208; VWFC_1; UNKNOWN_1.
KW Hypothetical protein.
SQ SEQUENCE 164 AA; 16499 MW; C002D48D36C9FCED CRC64;

Query Match 45.7%; Score 53; DB 2; Length 164;
Best Local Similarity 50.0%; Pred. No. 16;
Matches 9; Conservative 0; Mismatches 9; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICT 18
Db 80 GCGGCCCRPRCCCCRR 97

RESULT 14
Q95QV1 PRELIMINARY; PRT; 166 AA.
AC Q95QV1;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Hypothetical protein C04G6.10.
GN Name=C04G6.10; ORFNames=C04G6.10;
OS Caenorhabditis elegans.
OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
OC Rhabditidae; Peloderinae; Caenorhabditis.
OX NCBI_TaxID=6239;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RX MEDLINE=99069613; PubMed=9851916;
RG WormBase Consortium;
RT "Genome sequence of the nematode C. elegans: a platform for
RT investigating biology. The C. elegans Sequencing Consortium."
RL Science 282:2012-2018(1998).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RA Anderson K., Chisoe S.;
RT "The sequence of C. elegans cosmid C04G6."
RL Submitted (APR-1996) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RA Waterston R.;
RC STRAIN=Bristol N2;
RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.
RN [4]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RA Wilson R.;
RC STRAIN=Bristol N2;
RL Submitted (JUL-2004) to the EMBL/GenBank/DBJ databases.
RN [5]
RP SEQUENCE FROM N.A.
RC STRAIN=Bristol N2;
RG WormBase Consortium;
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.
DR EMBL; U55854; AAK68158.1; -.
DR HSSP; P10969; 1WGT.
DR WormBase; WBGene00015458; C04G6.10.
DR WormPep; C04G6.10; CE27649.
DR InterPro; IPR001450; 4Fe4S_ferredoxin.
DR InterPro; IPR006081; Defensin_alpha.
DR InterPro; IPR006209; EGF_like.
DR InterPro; IPR001007; VWF_C.
DR PROSITE; PS00198; 4FE4S_FERREDOXIN; UNKNOWN_1.
DR PROSITE; PS00269; DEFENSIN; UNKNOWN_1.
DR PROSITE; PS00022; EGF_1; UNKNOWN_1.
DR PROSITE; PS01208; VWFC_1; UNKNOWN_1.
KW Hypothetical protein.
SQ SEQUENCE 166 AA; 16971 MW; 9D9D130351BB50F1 CRC64;

Query Match 45.7%; Score 53; DB 2; Length 166;
Best Local Similarity 50.0%; Pred. No. 16;
Matches 9; Conservative 0; Mismatches 9; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICT 18
Db 81 GCGGCCCRPRCCCCRR 98

RESULT 15
Q18238 PRELIMINARY; PRT; 188 AA.
AC Q18238;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Hypothetical protein C27A2.5.
GN Name=C27A2.5; ORFNames=C27A2.5;

```



OS Caenorhabditis elegans.  
OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;  
OC Rhabditidae; Peloderinae; Caenorhabditis.  
OX NCBI\_TaxID=6239;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=Bristol N2;  
RX MEDLINE=99089613; PubMed=9851916;  
RG WormBase Consortium;  
RT "Genome sequence of the nematode C. elegans: a platform for  
RT investigating biology. The C. elegans Sequencing Consortium.";  
RL Science 282:2012-2018(1998).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC STRAIN=Bristol N2;  
RA Nhan M.;  
RT Submitted (MAY-1996) to the EMBL/GenBank/DBJ databases.  
RN [3]  
RP SEQUENCE FROM N.A.  
RC STRAIN=Bristol N2;  
RA Waterston R.;  
RL Submitted (NOV-2002) to the EMBL/GenBank/DBJ databases.  
RN [4]  
RP SEQUENCE FROM N.A.  
RC STRAIN=Bristol N2;  
RA Wilson R.;  
RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.  
RN [5]  
RP SEQUENCE FROM N.A.  
RC STRAIN=Bristol N2;  
RG WormBase Consortium;  
RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
DR EMBL; U58760; AAK31463.1; -.  
DR PIR; T15651; T15651.  
DR HSSP; P10968; 2CWG.  
DR IntAct; Q18238; -.  
DR WormBase; WBGene00016153; C27A2.5.  
DR WormPep; C27A2.5; CE04105.  
DR GO; GO:0005576; C:extracellular; IEA.  
DR GO; GO:0006952; P:defense response; IEA.  
DR GO; GO:0009613; P:response to pest, pathogen or parasite; IEA.  
DR InterPro; IPR001450; 4Fe4S\_ferredoxin.  
DR InterPro; IPR006081; Defensin\_alpha.  
DR InterPro; IPR001007; VWF\_C.  
DR PROSITE; PS00198; 4FE4S\_FERREDOXIN; UNKNOWN\_1.  
DR PROSITE; PS00269; DEFENSIN; 1.  
DR PROSITE; PS01208; VWFC\_1; UNKNOWN\_1.  
KW Hypothetical protein.  
SQ SEQUENCE 188 AA; 18878 MW; 0C5D0DCSCA8E0C4B CRC64;

Query Match 45.7%; Score 53; DB 2; Length 188;  
Best Local Similarity 50.0%; Pred.No. 18;  
Matches 9; Conservative 0; Mismatches 9; Indels 0; Gaps 0;

QY 1 GFCRCICTRGFCRCICTR 18  
| | | | | | | | | |  
Db 81 GGCGCCCRPKKCCCCRR 98

Search completed: April 28, 2005, 14:21:41  
Job time : 119 secs

**THIS PAGE BLANK (see p. 4)**

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 13:57:35 ; Search time 122.5 Seconds  
(without alignments)  
56.830 Million cell updates/sec

Title: US-10-009-317A-33

Perfect score: 112  
Sequence: 1 GVCRLCRGVCRLCRR 18

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_16Dec04:\*  
1: Geneseq1980s:\*  
2: Geneseq1990s:\*  
3: Geneseq2000s:\*  
4: Geneseq2001s:\*  
5: Geneseq2002s:\*  
6: Geneseq2003as:\*  
7: Geneseq2003bs:\*  
8: Geneseq2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	112	100.0	18	4	AAB35047
2	112	100.0	18	5	ABP53296
3	112	100.0	18	8	ADO35231
4	112	100.0	18	8	ADO35242
5	112	100.0	18	8	ADO35241
6	107	95.5	18	8	ADO35243
7	102	91.1	18	5	ABP53298
8	99	88.4	18	4	ABP53030
9	99	88.4	18	5	ABP53297
10	99	88.4	18	6	ABP53866
11	99	88.4	18	7	ADP95202
12	99	88.4	18	8	ADP35357
13	99	88.4	18	8	ADG70012
14	99	88.4	18	8	ADO35229
15	99	88.4	18	8	ADO35238
16	99	88.4	18	8	ADO35239
17	99	88.4	18	8	ADO35256
18	99	88.4	38	8	ADO35263
19	95	84.8	18	4	ABP53037
20	92	82.1	18	5	ABP53294
21	92	82.1	18	6	ABP53801
22	92	82.1	18	6	ABP53863
23	92	82.1	18	8	ADN08176
24	89	79.5	18	5	ABP53299
25	89	79.5	18	6	ABP53804

26	89	79.5	18	6	AAB33864	Aae33864 Enantio-R
27	89	79.5	18	6	AAB33803	Aae33803 Igy retro
28	89	79.5	18	6	AAB33802	Aae33802 R9K retro
29	89	79.5	18	8	ADO35244	Ado35244 Rhesus th
30	89	79.5	18	8	ADN08177	Adn08177 Human ret
31	89	79.5	18	8	ADN08179	Adn08179 Human ret
32	89	79.5	18	8	ADN08178	Adn08178 Human ret
33	88	78.6	18	6	AAB33805	Aae33805 I2Y retro
34	88	78.6	18	6	AAB33806	Aae33806 I11Y retr
35	88	78.6	18	8	ADN08180	Adn08180 Human ret
36	88	78.6	18	8	ADN08181	Adn08181 Human ret
37	86	76.8	18	4	AAB35046	Aab35046 Theta def
38	86	76.8	18	5	ABP53295	Abp53295 Anti-vira
39	86	76.8	18	6	AAB33865	Aae33865 RC-101/10
40	86	76.8	18	8	ADO35230	Ado35230 Rhesus th
41	86	76.8	18	8	ADO35255	Ado35255 Rhesus th
42	86	76.8	18	8	ADO35249	Ado35249 Rhesus th
43	85	75.9	18	6	AAB33807	Aae33807 R4Y retro
44	85	75.9	18	8	ADN08182	Adn08182 Human ret
45	84	75.0	18	8	ADO35254	Ado35254 Rhesus th

ALIGNMENTS

RESULT 1  
AAB35047  
ID AAB35047 standard; peptide; 18 AA.  
XX AC AAB35047;  
XX DT 27-MAR-2001 (first entry)  
XX DE Theta defensin SEQ ID NO: 31.  
XX KW Theta defensin; antimicrobial; cyclic; bacterium; fungus; protozoan;  
XX KW virus; helminth; disinfectant; food preservative; analogue.  
XX OS Unidentified.  
XX PN WO200069265-A1.  
XX PD 16-NOV-2000.  
XX PF 10-MAY-1999; 2000WO-US012842.  
XX PR 10-MAY-1999; 99US-00309487.  
XX PA (REGC) UNIV CALIFORNIA.  
XX Selsted ME, Tang Y, Yuan J, Ouellette AJ;  
XX WPI; 2001-031853/04.  
XX Novel theta defensin peptide with antimicrobial activity against  
XX bacteria, yeast, fungi, protozoa and viruses.  
XX Claim 19; Fig 16; 110pp; English.

Insert applicant  
patent document

The present invention provides theta defensin peptides and analogues which have antimicrobial activity. They can be used in the treatment of bacterial, viral, fungal, protozoan and helminthic infections, in disinfectants and as food preservatives

Sequence 18 AA;

Query Match 100.0%; Score 112; DB 4; Length 18;

Best Local Similarity 100.0%; Pred. No. 9.6e-06;

Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRLCRGVCRLCRR 18

DB 1 GVCRLCRGVCRLCRR 18

RESULT 2  
ABP53296  
ID ABP53296 standard; peptide; 18 AA.  
XX AC ABP53296;  
XX DT 13-NOV-2002 (first entry)  
XX DE Anti-viral theta defensin peptide RTD-3 SEQ ID NO:29.  
XX DE Anti-viral; viral infection; theta-defensin; lipid environment;  
KW amphipathic alpha-helical structure; virucide; anti-HIV; immunisation;  
KW viral growth inhibitor; viral proliferation inhibitor.  
XX Macaca mulatta.  
OS Synthetic.  
XX WO200260468-A2.  
XX PD 08-AUG-2002.  
XX 29-JAN-2002; 2002WO-US002435.  
XX 30-JAN-2001; 2001US-0265270P.  
XX 01-AUG-2001; 2001US-0309368P.  
XX (IOWA ) UNIV IOWA RES FOUND.  
XX Maury W, Stapleton J, Stinaki M, Roller R, Mccray PB, Tack B;  
XX WPI; 2002-674815/72.

XX New method of using a first anti-viral peptide comprising a Theta-  
PT defensin peptide in an amphipathic Alpha-helical structure in a lipid  
PT environment for reducing the infectivity of a virus.

XX Disclosure; Page 10; 65pp; English.

XX The present invention describes a method (M1) of using a first anti-viral  
CC peptide (I) comprising a theta-defensin peptide in an amphipathic alpha-  
CC helical structure in a lipid environment for reducing the infectivity of  
CC a virus. (I) can have virucide and anti-HIV activities, and can be used  
CC to reduce virus growth, infectivity burden, shed, and development of anti  
CC -viral resistance. (I) can be used for inhibiting the growth and  
CC proliferation of a virus and so can be used for; (a) protecting or  
CC treating subject from a viral infection, preventing recurrent viral  
CC infection in a subject harbouring a latent virus, controlling virus  
CC spread within a virally-infected subject (VS), reducing viral burden in a  
CC VS, reducing virus shed from a VS, reducing percentage of VS in a  
CC population regardless of viral infection status, or inducing latency in a  
CC VS; (b) reducing the infectivity of a virus; and (c) rendering virus-  
CC contaminated tissue or fluid sample safe for use, or reducing the number  
CC of infectious virus particles in a population of viruses. (M1) is useful  
CC for reducing the infectivity of a virus in sheep, cattle, horses, swine,  
CC cats, fowl and humans e.g. an enveloped virus infecting humans such as  
CC human immunodeficiency virus (HIV). Preferably, the anti-viral peptide is  
CC administered to a patient who is immunosuppressed or to a subject who is  
CC not infected with the virus, where the first anti-viral peptide is  
CC administered prior to or subsequent to the virus contacting the subject.  
CC The anti-viral peptide is most preferably administered to a subject who  
CC is chronically, latently or acutely infected with the virus. The present  
CC sequence represents a rhesus monkey theta defensin anti-viral peptide,  
CC which is given in the exemplification of the present invention

XX Sequence 18 AA;

Query Match 100.0%; Score 112; DB 5; Length 18;  
Best Local Similarity 100.0%; Pred. No. 9.6e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRLCRGVCRLCRR 18

Db 1 GVCRLCRGVCRLCRR 18

RESULT 3  
ADO35231  
ID ADO35231 standard; peptide; 18 AA.  
XX AC ADO35231;

XX DT 15-JUL-2004 (first entry)  
XX DE Rhesus theta defensin peptide, RTD-3.  
XX KW Monkey; Rhesus theta defensin; RTD-3; antimicrobial peptide; cyclic;  
KW antimicrobial; antiinflammatory; antibacterial; virucide; fungicide;  
KW food; contact lens solution; eye wash solution; inflammatory response;  
KW microbicidal inhibition; microbistatic growth inhibition; disinfectant;  
KW food preservative; bacterial infection; viral infection;  
KW fungal infection; haemolytic activity.

XX OS Macaca mulatta.  
XX FH Modified-site 1. .18  
FT Location/Qualifiers  
FT /note= "The peptide is cyclised by a covalent link  
FT between these two residues"  
FT Disulfide-bond 3. .16  
FT Disulfide-bond 5. .14  
FT Disulfide-bond 7. .12

XX US2004014669-A1.

XX 22-JAN-2004.

XX 30-APR-2003; 2003US-00427715.

XX 30-APR-2002; 2002US-0377071P.

XX (REGC ) UNIV CALIFORNIA.

XX Selsted ME, Tran DQ;

XX WPI; 2004-167945/16.

XX Novel theta defensin analog useful for reducing or inhibiting growth or  
PT survival of a microorganism in an environment such as food or food  
PT product, contact lens solution, or eye wash solution, an inanimate  
PT object.  
XX Example 1; SEQ ID NO 3; 46pp; English.

XX The invention relates to a theta defensin analogue defined by formulae  
CC detailed in the claims or appearing as ADO35231-ADO35257. The theta  
CC defensin analogue is useful for reducing or inhibiting growth or survival  
CC of a microorganism in an environment capable of sustaining the growth or  
CC survival of the microorganism and is useful for reducing or inhibiting  
CC growth or survival of a microorganism in an environment such as food or  
CC food product, a solution (e.g., contact lens solution, or eye wash  
CC solution), an inanimate object comprising surface, or a mammal. The  
CC peptides are also useful for decreasing inflammatory response and for  
CC microbicidal inhibition of survival of microorganism as well as  
CC microbistatic inhibition of growth. Thus the peptides are useful as  
CC therapeutic agents, disinfectants, food preservatives, or medicaments.  
CC The peptides are also useful for treating a patient suffering from  
CC bacterial, viral, fungal or other infection. The theta defensins have  
CC high antimicrobial activity and low haemolytic activity. The present  
CC sequence represents the rhesus monkey wild-type theta defensin RTD-3.

XX Sequence 18 AA;

Query Match 100.0%; Score 112; DB 8; Length 18;  
Best Local Similarity 100.0%; Pred. No. 9.6e-06;

Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRCRCRGVCRCLCRR 18  
 Db 1 GVCRCRCRGVCRCLCRR 18

RESULT 4  
 ADO35242  
 ID ADO35242 standard; peptide; 18 AA.

XX AC ADO35242;

XX DT 15-JUL-2004 (first entry)

XX DE Rhesus theta defensin analogue peptide arTD-3-NH.

XX KW Monkey; Rhesus theta defensin; RTD; antimicrobial peptide; antimicrobial;  
 KW antiinflammatory; antibacterial; virucide; fungicide; food;  
 KW contact lens solution; eye wash solution; inflammatory response;  
 KW microbicidal inhibition; microbistatic growth inhibition; disinfectant;  
 KW food preservative; bacterial infection; viral infection;  
 KW fungal infection; haemolytic activity.

XX OS Macaca mulatta.  
 XX OS Synthetic.

XX FH Key Location/Qualifiers  
 FT Disulfide-bond 3. .16  
 FT Disulfide-bond 5. .14  
 FT Disulfide-bond 7. .12  
 FT Modified-site 18  
 FT /note= "Amidated"

XX US2004014669-A1.

XX PD 22-JAN-2004.

XX PF 30-APR-2003; 2003US-00427715.

XX PR 30-APR-2002; 2002US-0377071P.

XX PA (REGC ) UNIV CALIFORNIA.

XX PI Selsted ME, Tran DQ;

XX DR WPI; 2004-167945/16.

XX PT Novel theta defensin analog useful for reducing or inhibiting growth or  
 PT survival of a microorganism in an environment such as food or food  
 PT product, contact lens solution, or eye wash solution, an inanimate  
 PT object.

XX PS Claim 1; SEQ ID NO 16; 46pp; English.

XX CC The invention relates to a theta defensin analogue defined by formulae  
 CC detailed in the claims or appearing as ADO35239-ADO35257. The theta  
 CC defensin analogue is useful for reducing or inhibiting growth or survival  
 CC of a microorganism in an environment capable of sustaining the growth or  
 CC survival of the microorganism and is useful for reducing or inhibiting  
 CC growth or survival of a microorganism in an environment such as food or  
 CC food product, a solution (e.g., contact lens solution, or eye wash  
 CC solution), an inanimate object comprising surface, or a mammal. The  
 CC peptides are also useful for decreasing inflammatory response and for  
 CC microbicidal inhibition of survival of microorganism as well as  
 CC microbistatic inhibition of growth. Thus the peptides are useful as  
 CC therapeutic agents, disinfectants, food preservatives, or medicaments.  
 CC The peptides are also useful for treating a patient suffering from  
 CC bacterial, viral, fungal or other infection. The theta defensins have  
 CC high antimicrobial activity and low haemolytic activity. The present  
 CC sequence represents a Rhesus theta defensin analogue peptide.

XX SQ Sequence 18 AA;

Query Match 100.0%; Score 112; DB 8; Length 18;  
 Best Local Similarity 100.0%; Pred. No. 9.6e-06;  
 Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRCRCRGVCRCLCRR 18  
 Db 1 GVCRCRCRGVCRCLCRR 18

RESULT 5

ID ADO35241 standard; peptide; 18 AA.

XX AC ADO35241;

XX DT 15-JUL-2004 (first entry)

XX DE Rhesus theta defensin analogue peptide arTD-3-OH.

XX KW Monkey; Rhesus theta defensin; RTD; antimicrobial peptide; antimicrobial;  
 KW antiinflammatory; antibacterial; virucide; fungicide; food;  
 KW contact lens solution; eye wash solution; inflammatory response;  
 KW microbicidal inhibition; microbistatic growth inhibition; disinfectant;  
 KW food preservative; bacterial infection; viral infection;  
 KW fungal infection; haemolytic activity.

XX OS Macaca mulatta.  
 XX OS Synthetic.

XX FH Key Location/Qualifiers  
 FT Disulfide-bond 3. .16  
 FT Disulfide-bond 5. .14  
 FT Disulfide-bond 7. .12  
 FT Modified-site 18  
 FT /note= "Hydroxylated"

XX US2004014669-A1.

XX PD 22-JAN-2004.

XX PF 30-APR-2003; 2003US-00427715.

XX PR 30-APR-2002; 2002US-0377071P.

XX PA (REGC ) UNIV CALIFORNIA.

XX PI Selsted ME, Tran DQ;

XX DR WPI; 2004-167945/16.

XX PT Novel theta defensin analog useful for reducing or inhibiting growth or  
 PT survival of a microorganism in an environment such as food or food  
 PT product, contact lens solution, or eye wash solution, an inanimate  
 PT object.

XX PS Claim 1; SEQ ID NO 15; 46pp; English.

XX CC The invention relates to a theta defensin analogue defined by formulae  
 CC detailed in the claims or appearing as ADO35239-ADO35257. The theta  
 CC defensin analogue is useful for reducing or inhibiting growth or survival  
 CC of a microorganism in an environment capable of sustaining the growth or  
 CC survival of the microorganism and is useful for reducing or inhibiting  
 CC growth or survival of a microorganism in an environment such as food or  
 CC food product, a solution (e.g., contact lens solution, or eye wash  
 CC solution), an inanimate object comprising surface, or a mammal. The  
 CC peptides are also useful for decreasing inflammatory response and for  
 CC microbicidal inhibition of survival of microorganism as well as  
 CC microbistatic inhibition of growth. Thus the peptides are useful as  
 CC therapeutic agents, disinfectants, food preservatives, or medicaments.  
 CC The peptides are also useful for treating a patient suffering from  
 CC bacterial, viral, fungal or other infection. The theta defensins have  
 CC high antimicrobial activity and low haemolytic activity. The present  
 CC sequence represents a Rhesus theta defensin analogue peptide.

CC sequence represents a Rhesus theta defensin analogue peptide.

XX Sequence 18 AA;  
SQ Query Match 100.0%; Score 112; DB 8; Length 18;  
Best Local Similarity 100.0%; Pred. No. 9.6e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRCRCRGVCRCRCR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GVCRCRCRGVCRCRCR 18

RESULT 6  
ADO35243  
ID ADO35243 standard; peptide; 18 AA.

XX ADO35243;

XX 15-JUL-2004 (first entry)

XX Rhesus theta defensin analogue peptide 3:1 ARTD-1-NH.

XX Monkey; Rhesus theta defensin; RTD; antimicrobial peptide; antimicrobial;  
KW antiinflammatory; antibacterial; virucide; fungicide; food;  
KW contact lens solution; eye wash solution; inflammatory response;  
KW microbicidal inhibition; microbistatic growth inhibition; disinfectant;  
KW food preservative; bacterial infection; viral infection;  
KW fungal infection; haemolytic activity.

XX Macaca mulatta.  
OS Synthetic.

XX Key Location/Qualifiers  
FH Disulfide-bond 4. .17  
FT Disulfide-bond 6. .15  
FT Disulfide-bond 8. .13  
FT Modified-site 18  
FT /note= "Amidated"

XX US2004014669-A1.

XX 22-JAN-2004.

XX 30-APR-2003; 2003US-00427715.

XX 30-APR-2002; 2002US-0377071P.

XX (REGC ) UNIV CALIFORNIA.

XX Selsted ME, Tran DQ;

XX WPI; 2004-167945/16.

XX Novel theta defensin analog useful for reducing or inhibiting growth or  
PT survival of a microorganism in an environment such as food or food  
PT product, contact lens solution, or eye wash solution, an inanimate  
PT object.

XX Claim 1; SEQ ID NO 17; 46pp; English.

XX The invention relates to a theta defensin analogue defined by formulae  
CC detailed in the claims or appearing as ADO35239-ADO35257. The theta  
CC defensin analogue is useful for reducing or inhibiting growth or survival  
CC of a microorganism in an environment capable of sustaining the growth or  
CC survival of the microorganism and is useful for reducing or inhibiting  
CC growth or survival of a microorganism in an environment such as food or  
CC food product, a solution (e.g., contact lens solution, or eye wash  
CC solution), an inanimate object comprising surface, or a mammal. The  
CC peptides are also useful for decreasing inflammatory response and for  
CC microbicidal inhibition of survival of microorganism as well as  
CC microbistatic inhibition of growth. Thus the peptides are useful as  
CC therapeutic agents, disinfectants, food preservatives, or medicaments.

CC The peptides are also useful for treating a patient suffering from  
CC bacterial, viral, fungal or other infection. The theta defensins have  
CC high antimicrobial activity and low haemolytic activity. The present  
CC sequence represents a Rhesus theta defensin analogue peptide.

XX Sequence 18 AA;

SQ Query Match 95.5%; Score 107; DB 8; Length 18;  
Best Local Similarity 100.0%; Pred. No. 3.3e-05;  
Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRCRCRGVCRCRCR 17  
| | | | | | | | | | | | | | | |  
Db 2 GVCRCRCRGVCRCRCR 18

RESULT 7

ABP53298

ID ABP53298 standard; peptide; 18 AA.

XX ABP53298;

XX 13-NOV-2002 (first entry)

XX Anti-viral chimeric theta defensin peptide H/RTD-3 SEQ ID NO:31.

XX Anti-viral; viral infection; theta-defensin; lipid environment;  
KW amphipathic alpha-helical structure; virucide; anti-HIV; immunisation;  
KW viral growth inhibitor; viral proliferation inhibitor.

XX Homo sapiens.  
OS Macaca mulatta.  
OS Synthetic.

XX WO200260468-A2.

XX 08-AUG-2002.

XX 29-JAN-2002; 2002WO-US002435.

XX 30-JAN-2001; 2001US-0265270P.

XX 01-JAN-2001; 2001US-0309368P.

XX (IOWA ) UNIV IOWA RES FOUND.

XX Maury W, Stapleton J, Stinski M, Roller R, Mccray PB, Tack B;

XX WPI; 2002-674815/72.

XX New method of using a first anti-viral peptide comprising a Theta-  
PT defensin peptide in an amphipathic Alpha-helical structure in a lipid  
PT environment for reducing the infectivity of a virus.

XX Disclosure; Page 10; 65pp; English.

XX The present invention describes a method (M1) of using a first anti-viral  
CC peptide (I) comprising a theta-defensin peptide in an amphipathic alpha-  
CC helical structure in a lipid environment for reducing the infectivity of  
CC a virus. (I) can have virucide and anti-HIV activities, and can be used  
CC to reduce virus growth, infectivity burden, shed, and development of anti-  
CC -viral resistance. (I) can be used for inhibiting the growth and  
CC proliferation of a virus and so can be used for: (a) protecting or  
CC treating subject from a viral infection, preventing recurrent viral  
CC infection in a subject harbouring a latent virus, controlling viral  
CC spread within a virally-infected subject (VS), reducing viral burden in a  
CC VS, reducing virus shed from a VS, reducing percentage of VS in a  
CC population regardless of viral infection status, or inducing latency in a  
CC VS; (b) reducing the infectivity of a virus; and (c) rendering virus-  
CC contaminated tissue or fluid sample safe for use, or reducing the number  
CC of infectious virus particles in a population of viruses. (M1) is useful  
CC for reducing the infectivity of a virus in sheep, cattle, horses, swine,  
CC cats, fowl and humans e.g. an enveloped virus infecting humans such as  
CC human immunodeficiency virus (HIV). Preferably, the anti-viral peptide is

CC administered to a patient who is immunosuppressed or to a subject who is  
 CC not infected with the virus, where the first anti-viral peptide is  
 CC administered prior to or subsequent to the virus contacting the subject.  
 CC The anti-viral peptide is most preferably administered to a subject who  
 CC is chronically, latently or acutely infected with the virus. The present  
 CC sequence represents a chimeric human/rhesus monkey theta defensin anti-  
 CC viral peptide, which is given in the exemplification of the present  
 CC invention

XX SQ Sequence 18 AA;

Query Match 91.1%; Score 102; DB 5; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00012;  
 Matches 15; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVCRCCLRRGVCRCLCRR 18  
 |:|||||||:|  
 Db 1 GICRCCLRRGVCRCLCGR 18

## RESULT 8

AAB35030  
 ID AAB35030 standard; peptide; 18 AA.

XX AC AAB35030;

DT 27-MAR-2001 (first entry)

XX DT Theta defensin SEQ ID NO: 1.

XX KW Theta defensin; antimicrobial; cyclic; bacterium; fungus; protozoan;  
 XX virus; helminth; disinfectant; food preservative; analogue.

XX OS Unidentified.

XX FH Key Location/Qualifiers

FT Cross-links 1. .18  
 FT /note= "peptide bond cyclises the molecule"  
 FT Disulfide-bond 3. .16  
 FT Disulfide-bond 5. .14  
 FT Disulfide-bond 7. .12

XX WO200068265-A1.

XX 16-NOV-2000.

PF 10-MAY-2000; 2000WO-US012842.

XX 10-MAY-1999; 99US-00309487.

XX (REGC ) UNIV CALIFORNIA.

XX PI Selsted ME, Tang Y, Yuan J, Ouellette AJ;

XX WPI; 2001-031853/04.

XX Novel theta defensin peptide with antimicrobial activity against  
 PT bacteria, yeast, fungi, protozoa and viruses.

XX Claim 4; Page 4; 110pp; English.

XX The present invention provides theta defensin peptides and analogues  
 CC which have antimicrobial activity. They can be used in the treatment of  
 CC bacterial, viral, fungal, protozoan and helminthic infections, in  
 CC disinfectants and as food preservatives

XX SQ Sequence 18 AA;

Query Match 88.4%; Score 99; DB 4; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00024;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRCCLRRGVCRCLCRR 18

Db 1 GFCRCCLRRGVCRICTR 18  
 |:|||||||:|

## RESULT 9

ABP53297  
 ID ABP53297 standard; peptide; 18 AA.

XX AC ABP53297;

XX DT 13-NOV-2002 (first entry)

XX DE Anti-viral theta defensin peptide RTD-1 SEQ ID NO:30.

XX KW Anti-viral; viral infection; theta-defensin; lipid environment;  
 KW amphipathic alpha-helical structure; virucide; anti-HIV; immunisation;  
 KW viral growth inhibitor; viral proliferation inhibitor.

XX OS Macaca mulatta.

XX OS Synthetic.

XX PN WO200260468-A2.

XX PD 08-AUG-2002.

XX PF 29-JAN-2002; 2002WO-US002435.

XX PR 30-JAN-2001; 2001US-0265270P.

XX PR 01-AUG-2001; 2001US-0309368P.

XX PA (IOWA ) UNIV IOWA RES FOUND.

XX PI Maury W, Stapleton J, Stinski M, Roller R, Mcray BB, Tack B;

XX WPI; 2002-674815/72.

XX FT New method of using a first anti-viral peptide comprising a Theta-  
 PT defensin peptide in an amphipathic Alpha-helical structure in a lipid  
 PT environment for reducing the infectivity of a virus.

XX PS Disclosure; Page 10; 65pp; English.

XX The present invention describes a method (M1) of using a first anti-viral  
 CC peptide (I) comprising a theta-defensin peptide in an amphipathic alpha-  
 CC helical structure in a lipid environment for reducing the infectivity of  
 CC a virus. (I) can have virucide and anti-HIV activities, and can be used  
 CC to reduce virus growth, infectivity burden, shed, and development of anti  
 CC -viral resistance. (I) can be used for inhibiting the growth and  
 CC proliferation of a virus and so can be used for; (a) protecting or  
 CC treating subject from a viral infection, preventing recurrent viral  
 CC infection in a subject harbouring a latent virus, controlling virus  
 CC spread within a virally-infected subject (VS), reducing viral burden in a  
 CC VS, reducing virus shed from a VS, reducing percentage of VS in a  
 CC population regardless of viral infection status, or inducing latency in a  
 CC VS; (b) reducing the infectivity of a virus; and (c) rendering virus-  
 CC contaminated tissue or fluid sample safe for use, or reducing the number  
 CC of infectious virus particles in a population of viruses. (M1) is useful  
 CC for reducing the infectivity of a virus in sheep, cattle, horses, swine,  
 CC cats, fowl and humans e.g. an enveloped virus infecting humans such as  
 CC human immunodeficiency virus (HIV). Preferably, the anti-viral peptide is  
 CC administered to a patient who is immunosuppressed or to a subject who is  
 CC not infected with the virus, where the first anti-viral peptide is  
 CC administered prior to or subsequent to the virus contacting the subject.  
 CC The anti-viral peptide is most preferably administered to a subject who  
 CC is chronically, latently or acutely infected with the virus. The present  
 CC sequence represents a rhesus monkey theta defensin anti-viral peptide,  
 CC which is given in the exemplification of the present invention

XX SQ Sequence 18 AA;

Query Match 88.4%; Score 99; DB 5; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00024;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRCICRRGVCRCLCRR 18  
 DB 1 GFCRCICRRGVCRICCTR 18

RESULT 10  
 AAE33866  
 ID AAE33866 standard; peptide; 18 AA.  
 XX  
 AC AAE33866;  
 DT 16-APR-2003 (first entry)  
 XX  
 DE Macaca mulatta RTD1 peptide.  
 XX  
 KW Retrocyclin; infection; sexually transmitted disease; gene therapy; HIV;  
 KW human immunodeficiency virus; bacterial vaginosis; ophthalmic infection;  
 KW antibiotic modelling; antimicrobial; rhesus monkey; theta defensin 1A;  
 KW RTD1.  
 XX  
 OS Macaca mulatta.  
 XX  
 PN WO200285401-A1.  
 XX  
 PD 31-OCT-2002.  
 XX  
 PF 18-APR-2002; 2002WO-US012353.  
 XX  
 PR 18-APR-2001; 2001US-0284855P.  
 XX  
 PA (REGC ) UNIV CALIFORNIA.  
 XX  
 PI Lehrer RI, Waring AJ, Cole AM, Hong TB;  
 XX  
 PS WPI; 2003-103387/09.  
 XX  
 PT New isolated retrocyclin peptide, useful for preventing retroviral  
 PT infections in cells susceptible to bacterial or viral infections or  
 PT treating patients having the infections, such as HIV, sexually  
 PT transmitted diseases, vaginosis.  
 XX  
 PS Example 1; Fig 3C; 72pp; English.  
 XX  
 CC The invention relates to novel retrocyclin peptides. Peptides and methods  
 CC of the invention are useful for preventing retroviral infections in cells  
 CC susceptible to bacterial or viral infections, or treating patients having  
 CC infections such as HIV (human immunodeficiency virus), sexually  
 CC transmitted diseases, bacterial vaginosis or ophthalmic infections. The  
 CC retrocyclin-mediated killing is useful for modelling and screening novel  
 CC antibiotics. The invention is also useful for gene therapy. The present  
 CC sequence is rhesus monkey theta defensin, RTD1 peptide. This sequence is  
 CC used in the exemplification of the invention  
 XX  
 SQ Sequence 18 AA;  
 Query Match 88.4%; Score 99; DB 6; Length 19;  
 Best Local Similarity 83.3%; Pred. No. 0.00024;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 GVCRCICRRGVCRCLCRR 18  
 DB 1 GVCRCICTRGFCRCICRR 18

RESULT 11  
 ADD95202  
 ID ADD95202 standard; peptide; 18 AA.  
 XX  
 AC ADD95202;  
 XX  
 DT 29-JAN-2004 (first entry)  
 XX

DE Cyclic defensin fragment.  
 XX  
 KW bacterial infection; human pathogen; holin; defensin;  
 KW peptide nucleic acid; PNA; penicillin; tetracycline; ampicillin;  
 KW kanamycin; antibiotic; antibacterial; antibiotic-resistance gene; cyclic.  
 XX  
 OS Unidentified.  
 XX  
 XX  
 FH Key Location/Qualifiers  
 FT Misc-difference 1..18  
 FT /note="Residue 1 and residue 18 bond to form a cyclic  
 FT moiety"  
 FT  
 FT Disulfide-bond 3..16  
 FT Disulfide-bond 5..14  
 FT Disulfide-bond 7..12  
 XX  
 PN WO2003059392-A2.  
 XX  
 PD 24-JUL-2003.  
 XX  
 PF 17-JAN-2003; 2003WO-DE000124.  
 XX  
 PR 18-JAN-2002; 2002DE-01001862.  
 XX  
 PA (DEKR-) DEUT KREBSFORSCHUNGSZENTRUM.  
 XX  
 PI Braun K, Braun I, Debus J, Pipkorn R, Waldeck W;  
 XX  
 XX WPI; 2003-689464/65.  
 XX  
 DR New conjugate of transport mediator and active agent, useful for treating  
 XX prokaryotic infections, especially by neutralizing antibiotic resistance  
 XX gene.  
 PT  
 PT  
 PS Disclosure; Fig 10; 34pp; German.  
 XX  
 CC This invention describes a novel conjugate for treating prokaryotic  
 CC infections which comprises a transport mediator for passage through the  
 CC prokaryotic cell membrane and a compound, directed against a prokaryote  
 CC and intended for introduction into it. The prokaryote is a bacterium,  
 CC especially one pathogenic in humans. The transport mediator is preferably  
 CC a human peptide or protein, especially a phage-holin protein, its active  
 CC fragment or variant or a defensin. The introduced compound is a peptide  
 CC nucleic acid (PNA) that inhibits a gene, especially one implicated in  
 CC resistance to penicillin, tetracycline, ampicillin or kanamycin. The  
 CC conjugate has the structure transport mediator-spacer-PNA where the  
 CC spacer is poly(glycine and/or lysine), preferably containing 2-6 amino  
 CC acids and the spacer is linked to the transport mediator through a  
 CC cleavable disulfide bridge. The conjugates are administered together with  
 CC an antibiotic, by parenteral, transdermal or subcutaneous routes. The  
 CC products of the invention have antibacterial activity and are used,  
 CC especially in combination with antibiotics, for treating prokaryotic,  
 CC specifically bacterial, infections, especially where the pathogen is  
 CC resistant to at least one antibiotic and then the PNA is directed against  
 CC the antibiotic-resistance gene. Where the PNA is directed against an  
 CC antibiotic resistance gene the conjugate will render the bacteria  
 CC sensitive to co-administered antibiotics i.e. 'old' antibiotics can be  
 CC used successfully in cases where normally they would be ineffective. This  
 CC sequence represents a cyclic defensin fragment described in the  
 CC disclosure of the invention.  
 XX  
 SQ Sequence 18 AA;

Query Match 88.4%; Score 99; DB 7; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00024;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 GVCRCICRRGVCRCLCRR 18  
 DB 1 GFCRCICRRGVCRICCTR 18

RESULT 12



ADD35357  
ID ADD35357 standard; peptide; 18 AA.  
XX  
XX AC ADD35357;  
XX  
XX DT 15-JAN-2004 (first entry)  
XX  
XX DE Antimicrobial peptide theta-defensin.  
XX  
XX KW antimicrobial; ophthalmic; prostaglandin; hypotensive; ophthalmological;  
XX intraocular pressure; glaucoma; ocular hypertension; hyperaemia;  
XX irritation; inflammation; conjunctiva; ocular cell dysplasia;  
XX iridial melanocyte hyperplasia; hyperpigmentation.  
XX  
XX OS Unidentified.  
XX  
XX PN WO2003079997-A2.  
XX  
XX PD 02-OCT-2003.  
XX  
XX PF 21-MAR-2003; 2003WO-US008935.  
XX  
XX PR 21-MAR-2002; 2002US-0367071P.  
XX  
XX PA (CAYM-) CAYMAN CHEM CO.  
XX  
XX PI Maxey KM, Johnson J;  
XX  
XX DR WPI; 2004-011506/01.  
XX  
XX CC Ophthalmic solution useful for the treatment of increased intraocular  
XX pressure comprises a prostaglandin of the F-series and an antimicrobial  
XX peptide.  
XX  
XX PS Disclosure; Page 11; 11pp; English.  
XX  
XX CC The invention relates to a novel ophthalmic solution comprising a  
XX prostaglandin of the F-series and an antimicrobial peptide. A solution of  
XX the invention has hypotensive and ophthalmological activity. The solution  
XX is useful for the treatment of increased intraocular pressure, such as  
XX caused by glaucoma and for the reduction of ocular hypertension. The  
XX prostaglandin and the antimicrobial peptide work synergistically to  
XX provide beneficial reduction in the incidence of irritant and toxic side  
XX effects such as hyperaemia, irritation and inflammation of conjunctiva,  
XX ocular cell dysplasia, iridial melanocyte hyperplasia, and  
XX hyperpigmentation, associated with the prior art prostaglandin  
XX compositions. The present sequence represents an antimicrobial peptide of  
XX the invention.  
XX  
XX SQ Sequence 18 AA;  
Query Match 88.4%; Score 99; DB 8; Length 18;  
Best Local Similarity 83.3%; Pred. No. 0.00024;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GVCRCLCRRGVCRCICRR 18  
Db 1 GFCRCLCRRGVCRCICTR 18  
RESULT 13  
ID ADG70012  
ADG70012 standard; peptide; 18 AA.  
XX  
XX AC ADG70012;  
XX  
XX DT 11-MAR-2004 (first entry)  
XX  
XX DE Rhesus theta-defensin-1 (RTD-1) peptide.  
XX  
XX KW rhesus theta defensin-1; RTD-1; bacteraemia; lipopolysaccharide; LPS;  
XX liptechonic acid; LTA; septic shock; antibacterial; fungicide; virucide;  
XX immunomodulator; anticoagulant activity;  
KW microbial cell-wall biosynthesis; immunomodulation; anticoagulant.  
Macaca mulatta.  
WO2003105883-A1.  
24-DEC-2003.  
30-MAY-2003; 2003WO-EP005694.  
13-JUN-2002; 2002DE-01026216.  
(FARB ) BAYER HEALTHCARE AG.  
Ladel C, Newton B, Labischinski H, Brunner N, Gerdes C;  
WPI; 2004-071500/07.  
Use of rhesus theta defensin-1 for treating or preventing bacteremia and  
septic shock, also for binding bacterial products and as immunomodulator  
and anticoagulant.  
Example 1; SEQ ID NO 1; 28pp; German.  
This invention describes the novel use of rhesus theta defensin-1 (RTD-1)  
for preparing a composition for treatment and/or prevention of  
bacteraemia for binding bacterial products such as lipopolysaccharide  
(LPS) and/or liptechonic acid (LTA), or for treatment and/or prevention  
of septic shock. RTD-1, isolated from immune cells of rhesus monkeys, has  
antibacterial, fungicide, virucide, immunomodulator and anticoagulant  
activity. RTD-1 inhibits microbial cell-wall biosynthesis and also binds  
to LPS and LTA. RTD-1 is useful for treatment and prevention of severe  
infections caused by Gram-positive or -negative bacteria and yeasts, or  
by viruses. RTD-1 combines four advantageous properties: a direct  
antimicrobial action, neutralisation of bacterial products (by binding),  
immunomodulation (reducing release of proinflammatory cytokines but  
increasing release of regulatory factors) and anticoagulant action, so  
provides a better and simpler treatment.  
Sequence 18 AA;  
Query Match 88.4%; Score 99; DB 8; Length 18;  
Best Local Similarity 83.3%; Pred. No. 0.00024;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
QY 1 GVCRCLCRRGVCRCICRR 18  
Db 1 GFCRCLCRRGVCRCICTR 18  
RESULT 14  
AD35229  
AD35229 standard; peptide; 18 AA.  
XX  
XX AC AD35229;  
XX  
XX DT 15-JUL-2004 (first entry)  
XX  
XX DE Rhesus theta defensin peptide, RTD-1.  
XX  
XX KW Monkey; Rhesus theta defensin; RTD-1; antimicrobial peptide; cyclic;  
XX antimicrobial; antiinflammatory; antibacterial; virucide; fungicide;  
XX food; contact lens solution; eye wash solution; inflammatory response;  
XX microbicidal inhibition; microbistatic growth inhibition; disinfectant;  
XX food preservative; bacterial infection; viral infection;  
XX fungal infection; haemolytic activity.  
Macaca mulatta.  
XX  
XX OS Macaca mulatta.  
XX  
XX FH Key Location/Qualifiers  
XX  
XX FT Modified-site 1..18  
XX /note= "The peptide is cyclised by a covalent link  
XX between these two residues"

FT Disulfide-bond 3. .16  
 FT Disulfide-bond 5. .14  
 FT Disulfide-bond 7. .12  
 XX US2004014669-A1.  
 PN XX  
 PD 22-JAN-2004.  
 XX  
 PF 30-APR-2003; 2003US-00427715.  
 XX  
 PR 30-APR-2002; 2002US-0377071P.  
 XX  
 PA (REGC ) UNIV CALIFORNIA.  
 XX  
 PI Selsted ME, Tran DQ;  
 XX  
 XX WPI; 2004-167945/16.  
 XX  
 XX Novel theta defensin analog useful for reducing or inhibiting growth or survival of a microorganism in an environment such as food or food product, contact lens solution, or eye wash solution, an inanimate object.  
 PT  
 PT  
 XX Example 1; SEQ ID NO 1; 46pp; English.  
 XX  
 CC The invention relates to a theta defensin analogue defined by formulae detailed in the claims or appearing as ADO35239-ADO35257. The theta defensin analogue is useful for reducing or inhibiting growth or survival of a microorganism in an environment capable of sustaining the growth or survival of the microorganism and is useful for reducing or inhibiting growth or survival of a microorganism in an environment such as food or food product, a solution (e.g., contact lens solution, or eye wash solution), an inanimate object comprising surface, or a mammal. The peptides are also useful for decreasing inflammatory response and for microbicidal inhibition of survival of microorganism as well as therapeutic agents, disinfectants, food preservatives, or medicaments. The peptides are also useful for treating a patient suffering from bacterial, viral, fungal or other infection. The theta defensins have high antimicrobial activity and low haemolytic activity. The present sequence represents the rhesus monkey wild-type theta defensin RTD-1.  
 CC  
 XX Sequence 18 AA;  
 SQ  
 Query Match 88.4%; Score 99; DB 8; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00024;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 GVCRCLCRRGVCRCLCRR 18  
 Db 1 GFCRCLCRRGVCRICCTR 18  
 RESULT 15  
 ADO35238  
 ID ADO35238 standard; peptide; 18 AA.  
 XX  
 AC ADO35238;  
 XX  
 XX 15-JUL-2004 (first entry)  
 DT  
 XX  
 DE Rhesus theta defensin analogue peptide aRTD-1-OH.  
 XX  
 XX Monkey; Rhesus theta defensin; RTD; antimicrobial peptide; antimicrobial; antiinflammatory; antibacterial; virucide; fungicide; food; contact lens solution; eye wash solution; inflammatory response; microbicidal inhibition; microbistatic growth inhibition; disinfectant; food preservative; bacterial infection; viral infection; fungal infection; haemolytic activity.  
 KW  
 XX Macaca mulatta.  
 OS  
 OS Synthetic.  
 XX

FH Key Location/Qualifiers  
 FT Disulfide-bond 3. .16  
 FT Disulfide-bond 5. .14  
 FT Disulfide-bond 7. .12  
 FT Modified-site 18  
 FT /note= "Hydroxylated"  
 XX  
 XX US2004014669-A1.  
 PN XX  
 PD 22-JAN-2004.  
 XX  
 PF 30-APR-2003; 2003US-00427715.  
 XX  
 PR 30-APR-2002; 2002US-0377071P.  
 XX  
 PA (REGC ) UNIV CALIFORNIA.  
 XX  
 PI Selsted ME, Tran DQ;  
 XX  
 XX WPI; 2004-167945/16.  
 DR  
 XX Novel theta defensin analog useful for reducing or inhibiting growth or survival of a microorganism in an environment such as food or food product, contact lens solution, or eye wash solution, an inanimate object.  
 PT  
 PT  
 XX Example 2; SEQ ID NO 12; 46pp; English.  
 XX  
 CC The invention relates to a theta defensin analogue defined by formulae detailed in the claims or appearing as ADO35239-ADO35257. The theta defensin analogue is useful for reducing or inhibiting growth or survival of a microorganism in an environment capable of sustaining the growth or survival of the microorganism and is useful for reducing or inhibiting growth or survival of a microorganism in an environment such as food or food product, a solution (e.g., contact lens solution, or eye wash solution), an inanimate object comprising surface, or a mammal. The peptides are also useful for decreasing inflammatory response and for microbicidal inhibition of survival of microorganism as well as therapeutic agents, disinfectants, food preservatives, or medicaments. The peptides are also useful for treating a patient suffering from bacterial, viral, fungal or other infection. The theta defensins have high antimicrobial activity and low haemolytic activity. The present sequence represents a Rhesus theta defensin analogue peptide.  
 CC  
 XX Sequence 18 AA;  
 SQ  
 Query Match 88.4%; Score 99; DB 8; Length 18;  
 Best Local Similarity 83.3%; Pred. No. 0.00024;  
 Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 GVCRCLCRRGVCRCLCRR 18  
 Db 1 GFCRCLCRRGVCRICCTR 18  
 Search completed: April 28, 2005, 14:17:43  
 Job time : 122.5 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 14:12:37 ; Search time 30 Seconds  
(without alignments)  
44.789 Million cell updates/sec

Title: US-10-009-317A-33

Perfect score: 112

Sequence: 1 GVCRLCRRGVCRCLCRR 18

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:\*

- 1: /cgn2\_6/prodata/1/iaa/5A-COMB.pep.\*
- 2: /cgn2\_6/prodata/1/iaa/5B-COMB.pep.\*
- 3: /cgn2\_6/prodata/1/iaa/6A-COMB.pep.\*
- 4: /cgn2\_6/prodata/1/iaa/6B-COMB.pep.\*
- 5: /cgn2\_6/prodata/1/iaa/PCTUS-COMB.pep.\*
- 6: /cgn2\_6/prodata/1/iaa/backfiles1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Match	Length	DB ID	Description
1	99	88.4	18	3	US-09-309-487-1
2	99	88.4	18	4	US-09-967-808-1
3	95	84.8	18	3	US-09-309-487-9
4	95	84.8	18	4	US-09-967-808-9
5	92	82.1	18	4	US-10-141-645-1
6	89	79.5	18	4	US-10-141-645-2
7	89	79.5	18	4	US-10-141-645-3
8	89	79.5	18	4	US-10-141-645-4
9	88	78.6	18	4	US-10-141-645-5
10	88	78.6	18	4	US-10-141-645-6
11	85	75.9	18	4	US-10-141-645-7
12	80	71.4	18	4	US-09-917-340-53
13	77	68.8	18	4	US-10-141-645-8
14	77	68.8	18	4	US-10-141-645-9
15	62	55.4	92	3	US-09-309-487-22
16	62	55.4	92	4	US-09-967-808-22
17	62	55.4	141	4	US-10-141-645-68
18	62	55.4	141	4	US-10-141-645-72
19	61	54.5	140	4	US-10-141-645-66
20	61	54.5	141	4	US-10-141-645-67
21	60	53.6	76	3	US-09-309-487-16
22	60	53.6	76	4	US-09-967-808-16
23	60	53.6	76	4	US-10-141-645-17
24	60	53.6	92	3	US-09-309-487-21
25	60	53.6	92	4	US-09-967-808-21
26	60	53.6	141	4	US-10-141-645-73
27	58	51.8	17	3	US-09-604-864-1

28	58	51.8	17	4	US-10-042-872-1	Sequence 1, Appli
29	57	50.9	180	4	US-09-510-238A-286	Sequence 286, App
30	56	50.0	9	3	US-09-309-487-20	Sequence 20, Appl
31	56	50.0	9	4	US-09-967-808-20	Sequence 20, Appl
32	56	50.0	9	4	US-10-141-645-27	Sequence 27, Appl
33	56	50.0	9	4	US-10-141-645-45	Sequence 45, Appl
34	56	50.0	118	4	US-10-141-645-121	Sequence 121, Appl
35	56	50.0	140	4	US-10-141-645-65	Sequence 65, Appl
36	56	50.0	140	4	US-10-141-645-69	Sequence 69, Appl
37	56	50.0	141	4	US-10-141-645-125	Sequence 125, App
38	55	49.1	168	4	US-09-252-991A-32502	Sequence 32502, A
39	54.5	48.7	96	4	US-09-270-767-40304	Sequence 40304, A
40	54.5	48.7	96	4	US-09-270-767-55520	Sequence 55520, A
41	54	48.2	9	4	US-10-141-645-33	Sequence 33, Appl
42	54	48.2	59	4	US-10-141-645-12	Sequence 12, Appl
43	53.5	47.8	350	2	US-08-999-811-4	Sequence 4, Appli
44	53.5	47.8	350	2	US-08-824-996-2	Sequence 2, Appli
45	53.5	47.8	350	3	US-09-042-105-4	Sequence 4, Appli

## ALIGNMENTS

### RESULT 1

US-09-309-487-1  
; Sequence 1, Application US/09309487  
; Patent No. 6335318  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tang, Yi-Quan  
; APPLICANT: Yuan, Jun  
; APPLICANT: Ouellette, Andre J.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using Same  
; FILE REFERENCE: P-UC 3095  
; CURRENT APPLICATION NUMBER: US/09/309,487  
; CURRENT FILING DATE: 1999-05-10  
; NUMBER OF SEQ ID NOS: 31  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 1  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Macaca mulatta  
US-09-309-487-1

OP

Query Match 88.4%; Score 99; DB 3; Length 18;  
Best Local Similarity 83.3%; Pred. No. 9.3e-06;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRCLCRR 18  
| | | | | | | | | | | | | | | | | |  
Db 1 GVCRLCRRGVCRCLCRR 18

### RESULT 2

US-09-967-808-1  
; Sequence 1, Application US/09967808  
; Patent No. 6514727  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tang, Yi-Quan  
; APPLICANT: Yuan, Jun  
; APPLICANT: Ouellette, Andre J.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using  
; FILE REFERENCE: P-UC 3095  
; CURRENT APPLICATION NUMBER: US/09/967,808  
; CURRENT FILING DATE: 2001-09-26  
; PRIOR APPLICATION NUMBER: US/09/309,487  
; PRIOR FILING DATE: 1999-05-10  
; NUMBER OF SEQ ID NOS: 31  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 1  
; LENGTH: 18

OP

```
; TYPE: PRT
; ORGANISM: Macaca mulatta
US-09-967-808-1

Query Match      88.4%; Score 99; DB 4; Length 18;
Best Local Similarity 83.3%; Pred. No. 9.3e-06;
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVRCICLR 18
Db 1 GFCRLCRRGVRCICLR 18

RESULT 3
US-09-309-487-9
; Sequence 9, Application US/09309487
; Patent No. 6335318
; GENERAL INFORMATION:
; APPLICANT: Selsted, Michael E.
; APPLICANT: Tang, Yi-Quan
; APPLICANT: Yuan, Jun
; APPLICANT: Ouellette, Andre J.
; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using Same
; FILE REFERENCE: P-UC 3095
; CURRENT APPLICATION NUMBER: US/09/309,487
; CURRENT FILING DATE: 1999-05-10
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Macaca mulatta
US-09-309-487-9

Query Match      84.8%; Score 95; DB 3; Length 18;
Best Local Similarity 87.5%; Pred. No. 2.7e-05;
Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVRCICLC 16
Db 3 GFCRLCRRGVRCICLC 18

RESULT 4
US-09-967-808-9
; Sequence 9, Application US/09967808
; Patent No. 6514727
; GENERAL INFORMATION:
; APPLICANT: Selsted, Michael E.
; APPLICANT: Tang, Yi-Quan
; APPLICANT: Yuan, Jun
; APPLICANT: Ouellette, Andre J.
; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using
; FILE REFERENCE: P-UC 3095
; CURRENT APPLICATION NUMBER: US/09/967,808
; CURRENT FILING DATE: 2001-09-26
; PRIOR APPLICATION NUMBER: US/09/309,487
; PRIOR FILING DATE: 1999-05-10
; NUMBER OF SEQ ID NOS: 31
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Macaca mulatta
US-09-967-808-9

Query Match      84.8%; Score 95; DB 4; Length 18;
Best Local Similarity 87.5%; Pred. No. 2.7e-05;
Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVRCICLC 16
Db 1 GFCRLCRRGVRCICLC 18

; TYPE: PRT
; ORGANISM: Macaca mulatta
US-09-967-808-1

Query Match      88.4%; Score 99; DB 4; Length 18;
Best Local Similarity 83.3%; Pred. No. 9.3e-06;
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVRCICLR 18
Db 1 GFCRLCRRGVRCICLR 18

RESULT 5
US-10-141-645-1
; Sequence 1, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; TITLE OF INVENTION: Antimicrobial Peptides
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-141-645-1

Query Match      82.1%; Score 92; DB 4; Length 18;
Best Local Similarity 66.7%; Pred. No. 6e-05;
Matches 12; Conservative 4; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVRCICLR 18
Db 1 GICRCICRGICRCICGR 18

RESULT 6
US-10-141-645-2
; Sequence 2, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; TITLE OF INVENTION: Antimicrobial Peptides
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-2

Query Match      79.5%; Score 89; DB 4; Length 18;
Best Local Similarity 61.1%; Pred. No. 0.00013;
Matches 11; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVRCICLR 18
Db 1 GICRCICRGICRCICGR 18
```

Query Match 78.6%; Score 88; DB 4;  
Best Local Similarity 66.7%; Pred. No. 0.00018  
Matches 12; Conservative 3; Mismatches

Query Match 78.6%; Score 88; DB 4;  
Best Local Similarity 66.7%; Pred. No. 0.00018  
Matches 12: Conservative 3; Mismatches

```

RESULT 7
US-10-141-645-3
; Sequence 3, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; TITLE OF INVENTION: Antimicrobial Peptides
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-3

```

Query Match 79.5%; Score 89; DB 4; Length 18;  
Best Local Similarity 66.7%; Pred. No. 0.00013;  
Matches 12; Conservative 3; Mismatches 3; Indels

Qy	1	GVCRLCRRGVCRCLRR	18
		:       :     :	
		:       :     :	
Db	1	GTCCYCGEGTCTCGR	18

```

RESULT 8
US-10-141-645-4
; Sequence 4, Application US/10141645
; Patent No. 67113078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; TITLE OF INVENTION: Antimicrobial Peptides
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141.645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-4

```

Query Match	79.5%;	Score 89;	DB 4;	Length 18;
Best Local Similarity	66.7%;	Pred. No. 0.00013;		
Matches 12.	Conservative	3.	Mismatches	Indels

QY 1 GVCRCLCRRGVCRCLCRR 18  
| : | | : | | : | | |

Db 1 GICRCIGRGYCRICGR 18

```

RESULT 11
US-10-141-645-7
; Sequence 7, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; TITLE OF INVENTION: Antimicrobial Peptides
; FILE REFERENCE: UCLA-00ICIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; PRIOR FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 7
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-7

```

Query Match 75.9%; Score 85; DB 4; Length 18;  
Best Local Similarity 61.1%; Pred. No. 0.00039;  
Matches 11; Conservative 4; Mismatches 3; Indels

QY 1 GVCRLCRRGGVCRCLCRR 18  
| : | : | : | : | : |  
Db 1 GICYICIGRGICRCICGR 18

```

RESULT 12
US-09-917-340-53
; Sequence 53, Application US/09917340
; Patent No. 6696238
; GENERAL INFORMATION:
; APPLICANT: Murphy, Christopher J.
; APPLICANT: McAnulty, Jonathan F.
; APPLICANT: Reid, Ted W.
; TITLE OF INVENTION: Transplant Media
; FILE REFERENCE: TPLANT-06468
; CURRENT APPLICATION NUMBER: US/09/917,340
; CURRENT FILING DATE: 2001-07-29
; PRIOR APPLICATION NUMBER: 60/221,632
; PRIOR FILING DATE: 2000-07-28
; PRIOR APPLICATION NUMBER: 60/249,602
; PRIOR FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: 60/290,932
; PRIOR FILING DATE: 2001-05-15
; NUMBER OF SEQ ID NOS: 96
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 53
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Macaca mulatta
US-09-917-340-53

```

```

Query Match      71.4%;      Score 80;  DB 4;  Length 18;
Best Local Similarity 80.0%;  Pred.No. 0.0015;
Matches 12; Conservative 1; Mismatches 2; Indels

Qy      4 RCLCRRGVCRLCRR 18
      |||:|||||

```

Db 1 RCICTRGFCRCLERR 15

```

RESULT 13
US-10-141-645-8
; Sequence 8, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; TITLE OF INVENTION: Antimicrobial Peptides
; FILE REFERENCE: UCLA-001CIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 8
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-8

```

Query Match	68.8%;	Score 77;	DB 4;	Length 18;
Best Local Similarity	55.6%;	Pred. No. 0.0033;		
Matches 10;	Conservative 4;	Mismatches 4;	Indels	
Qy	1	GVCRCLCRRGVCRLCRR	18	
		: : : : : : : :		
nb	1	GTCTCTCGVGTCTCTG	18	

```

RESULT 14
US-10-141-645-9
; Sequence 9, Application US/10141645
; Patent No. 6713078
; GENERAL INFORMATION:
; APPLICANT: Robert Lehrer
; APPLICANT: Alan Waring
; APPLICANT: Alexander Cole
; APPLICANT: Teresa Hong
; TITLE OF INVENTION: Retrocyclins - Antiviral and
; TITLE OF INVENTION: Antimicrobial Peptides
; FILE REFERENCE: UCLA-00ICIP
; CURRENT APPLICATION NUMBER: US/10/141,645
; CURRENT FILING DATE: 2002-05-06
; PRIORITY APPLICATION NUMBER: 60/284,855
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: Unassigned
; PRIOR FILING DATE: 2002-04-18
; NUMBER OF SEQ ID NOS: 125
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 9
; LENGTH: 18
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic variant
US-10-141-645-9

```

Query Match	68.8%	Score 77	DB 4	Length 18
Best Local Similarity	55.6%	Pred. No. 0.0033		
Matches 10; Conservative	4	Mismatches	4	Indels 0
Gaps	0			
ov	1	GVCFCLCRRGVCFCLCRR	18	

Db 1 GICICGRCGYCICGR 18

RESULT 15

US-09-309-487-22  
 ; Sequence 22, Application US/09309487  
 ; Patent No. 6335318  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Selsted, Michael E.  
 ; APPLICANT: Tang, Yi-Quan  
 ; APPLICANT: Yuan, Jun  
 ; APPLICANT: Ouellette, Andre J.  
 ; TITLE OF INVENTION: Antimicrobial Theta Defensins and Methods of Using Same  
 ; FILE REFERENCE: P-UC 3095  
 ; CURRENT APPLICATION NUMBER: US/09/309,487  
 ; CURRENT FILING DATE: 1999-05-10  
 ; NUMBER OF SEQ ID NOS: 31  
 ; SOFTWARE: Patentin Ver. 2.0  
 ; SEQ ID NO 22  
 ; LENGTH: 92  
 ; TYPE: PRT  
 ; ORGANISM: Macaca mulatta  
 US-09-309-487-22

Query Match 55.4%; Score 62; DB 3; Length 92;  
 Best Local Similarity 78.6%; Pred. No. 0.7;  
 Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 4 RCLCRGVCRCLCR 17

Db 65 RCLCRGVCCOLLRR 78

Search completed: April 28, 2005, 14:23:42  
 Job time : 30 secs

**THIS PAGE BLANK (USP10)**



GenCore version 5.1.6  
Copyright (c) 1993 - 2005 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 14:13:43 ; Search time 91 Seconds  
(without alignments)  
65.889 Million cell updates/sec

Title: US-10-009-317A-33

Perfect score: 112  
Sequence: 1 GVCRLCRRGVCRLCRR 18

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1426032 seqs, 333106140 residues

Total number of hits satisfying chosen parameters: 1426032

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA.\*  
1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*  
2: /cgn2\_6/ptodata/1/pubpaa/PCT\_NEW\_PUB.pep.\*  
3: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*  
4: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep.\*  
5: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep.\*  
6: /cgn2\_6/ptodata/1/pubpaa/PCTUS\_PUBCOMB.pep.\*  
7: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*  
8: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*  
9: /cgn2\_6/ptodata/1/pubpaa/US09A\_PUBCOMB.pep.\*  
10: /cgn2\_6/ptodata/1/pubpaa/US09B\_PUBCOMB.pep.\*  
11: /cgn2\_6/ptodata/1/pubpaa/US09C\_PUBCOMB.pep.\*  
12: /cgn2\_6/ptodata/1/pubpaa/US09\_NEW\_PUB.pep.\*  
13: /cgn2\_6/ptodata/1/pubpaa/US10A\_PUBCOMB.pep.\*  
14: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pep.\*  
15: /cgn2\_6/ptodata/1/pubpaa/US10C\_PUBCOMB.pep.\*  
16: /cgn2\_6/ptodata/1/pubpaa/US10D\_PUBCOMB.pep.\*  
17: /cgn2\_6/ptodata/1/pubpaa/US10\_NEW\_PUB.pep.\*  
18: /cgn2\_6/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*  
19: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB.pep.\*  
20: /cgn2\_6/ptodata/1/pubpaa/US60\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	112	100.0	18	14	US-10-060-102-29
2	112	100.0	18	15	US-10-427-715-3
3	112	100.0	18	15	US-10-427-715-15
4	112	100.0	18	15	US-10-427-715-16
5	112	100.0	18	15	US-10-427-839-29
6	107	95.5	18	15	US-10-427-715-17
7	102	91.1	18	14	US-10-060-102-31
8	102	91.1	18	15	US-10-721-839-31
9	99	88.4	18	14	US-10-060-102-30
10	99	88.4	18	14	US-10-313-994-1
11	99	88.4	18	15	US-10-427-715-1
12	99	88.4	18	15	US-10-427-715-12
13	99	88.4	18	15	US-10-427-715-13

14	99	88.4	18	15	US-10-427-715-30	Sequence 30, Appl
15	99	88.4	18	15	US-10-721-839-30	Sequence 30, Appl
16	95	84.8	18	14	US-10-313-994-9	Sequence 9, Appl
17	92	82.1	18	14	US-10-060-102-27	Sequence 27, Appl
18	92	82.1	18	14	US-10-141-645-1	Sequence 1, Appl
19	92	82.1	18	15	US-10-721-839-27	Sequence 27, Appl
20	89	79.5	18	14	US-10-060-102-32	Sequence 32, Appl
21	89	79.5	18	14	US-10-141-645-2	Sequence 2, Appl
22	89	79.5	18	14	US-10-141-645-3	Sequence 3, Appl
23	89	79.5	18	14	US-10-141-645-4	Sequence 4, Appl
24	89	79.5	18	15	US-10-427-715-18	Sequence 18, Appl
25	89	79.5	18	15	US-10-721-839-32	Sequence 32, Appl
26	88	78.6	18	14	US-10-141-645-5	Sequence 5, Appl
27	88	78.6	18	14	US-10-141-645-6	Sequence 6, Appl
28	86	76.8	18	14	US-10-060-102-28	Sequence 28, Appl
29	86	76.8	18	15	US-10-427-715-2	Sequence 2, Appl
30	86	76.8	18	15	US-10-427-715-14	Sequence 14, Appl
31	86	76.8	18	15	US-10-427-715-23	Sequence 23, Appl
32	86	76.8	18	15	US-10-427-715-29	Sequence 29, Appl
33	85	75.9	18	14	US-10-721-839-28	Sequence 28, Appl
34	85	75.9	18	14	US-10-141-645-7	Sequence 7, Appl
35	84	75.0	18	15	US-10-427-715-28	Sequence 28, Appl
36	81	72.3	18	15	US-10-427-715-19	Sequence 19, Appl
37	81	72.3	18	15	US-10-427-715-20	Sequence 20, Appl
38	81	72.3	18	15	US-10-427-715-31	Sequence 31, Appl
39	80	71.4	18	9	US-09-917-340-53	Sequence 53, Appl
40	80	71.4	18	17	US-10-844-837-53	Sequence 53, Appl
41	80	71.4	18	17	US-10-909-119-67	Sequence 67, Appl
42	77	68.8	18	14	US-10-141-645-8	Sequence 8, Appl
43	77	68.8	18	14	US-10-141-645-9	Sequence 9, Appl
44	76	67.9	18	15	US-10-427-715-37	Sequence 37, Appl
45	76	67.9	18	15	US-10-427-715-38	Sequence 38, Appl

ALIGNMENTS

RESULT 1  
US-10-060-102-29  
; Sequence 29, Application US/10060102  
; Publication No. US20030022829A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/060,102  
; PRIOR FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 29  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
; US-10-060-102-29

Query Match 100.0%; Score 112; DB 14; Length 18;  
Best Local Similarity 100.0%; Pred. No. 3.5e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GVCRLCRRGVCRLCRR 18

Db 1 GVCRLCRRGVCRCLCRR 18  
|||||

RESULT 2

US-10-427-715-3  
; Sequence 3, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 3  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Macaca mulatta  
US-10-427-715-3

Query Match 100.0%; Score 112; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 3.5e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRCLCRR 18  
|||||

Db 1 GVCRLCRRGVCRCLCRR 18  
|||||

RESULT 3

US-10-427-715-15  
; Sequence 15, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 15  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct  
US-10-427-715-15

Query Match 100.0%; Score 112; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 3.5e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRCLCRR 18  
|||||

Db 1 GVCRLCRRGVCRCLCRR 18  
|||||

RESULT 4

US-10-427-715-16  
; Sequence 16, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:

; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 16  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct  
; NAME/KEY: AMIDATION  
; LOCATION: 18  
; OTHER INFORMATION: at the C terminus  
US-10-427-715-16

Query Match 100.0%; Score 112; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 3.5e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRCLCRR 18  
|||||

Db 1 GVCRLCRRGVCRCLCRR 18  
|||||

RESULT 5

US-10-721-839-29  
; Sequence 29, Application US/10721839  
; Publication No. US20040086535A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; TITLE OF INVENTION: CATHELICIDINS  
; FILE REFERENCE: IOWA-035US  
; CURRENT APPLICATION NUMBER: US/10/721,839  
; CURRENT FILING DATE: 2003-11-25  
; PRIOR APPLICATION NUMBER: US/10/060,102  
; PRIOR FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 29  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-721-839-29

Query Match 100.0%; Score 112; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 3.5e-06;  
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRCLCRR 18  
|||||

Db 1 GVCRLCRRGVCRCLCRR 18  
|||||

RESULT 6  
US-10-427-715-17  
; Sequence 17, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Selsted, Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; TITLE OF INVENTION: Thereof, and Methods of Use  
; FILE REFERENCE: 66778-302 (UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 17  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct  
; NAME/KEY: AMIDATION  
; LOCATION: 18  
; OTHER INFORMATION: at the C terminus  
US-10-427-715-17

Query Match 95.5%; Score 107; DB 15; Length 18;  
Best Local Similarity 100.0%; Pred. No. 1.3e-05;  
Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRLCLR 17  
|:|||||:|  
DB 2 GVCRLCRRGVCRLCLR 18

RESULT 7  
US-10-060-102-31  
; Sequence 31, Application US/10060102  
; Publication No. US20030022829A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/060,102  
; CURRENT FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 31  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-060-102-31

Query Match 91.1%; Score 102; DB 14; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.5e-05;  
Matches 15; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRLCRR 18  
|:|||||:|  
DB 1 GICRLCRRGVCRCICGR 18

RESULT 8  
US-10-721-839-31  
; Sequence 31, Application US/10721839  
; Publication No. US20040086535A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/721,839  
; CURRENT FILING DATE: 2003-11-25  
; PRIOR APPLICATION NUMBER: US/10/060,102  
; PRIOR FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 31  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-721-839-31

Query Match 91.1%; Score 102; DB 15; Length 18;  
Best Local Similarity 83.3%; Pred. No. 4.5e-05;  
Matches 15; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 GVCRLCRRGVCRLCRR 18  
|:|||||:|  
DB 1 GICRLCRRGVCRCICGR 18

RESULT 9  
US-10-060-102-30  
; Sequence 30, Application US/10060102  
; Publication No. US20030022829A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; FILE REFERENCE: IOWA:035US  
; CURRENT APPLICATION NUMBER: US/10/060,102  
; CURRENT FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 30  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
US-10-060-102-30



Db 1 GFCRCLCRRGVCRIC 18

Search completed: April 28, 2005, 14:26:50  
Job time : 91.5 secs

RESULT 14  
US-10-427-715-30  
; Sequence 30, Application US/10427715  
; Publication No. US20040014669A1  
; GENERAL INFORMATION:  
; APPLICANT: Sclated. Michael E.  
; APPLICANT: Tran, Dat Q.  
; TITLE OF INVENTION: Antimicrobial Theta Defensins, Analogs  
; FILE REFERENCE: 66778-302(UC5754)  
; CURRENT APPLICATION NUMBER: US/10/427,715  
; CURRENT FILING DATE: 2003-04-30  
; PRIOR APPLICATION NUMBER: US 60/377,071  
; PRIOR FILING DATE: 2002-04-30  
; NUMBER OF SEQ ID NOS: 41  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 30  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic construct  
US-10-427-715-30

Query Match 88.4%; Score 99; DB 15; Length 18;  
Best Local Similarity 87.5%; Pred. No. 9.7e-05;  
Matches 14; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 GVCRCRCRGVCRCLC 16  
|:|||||:|  
Db 1 GICRCLCRRGVCRIC 16

RESULT 15  
US-10-721-839-30  
; Sequence 30, Application US/10721839  
; Publication No. US20040086535A1  
; GENERAL INFORMATION:  
; APPLICANT: MAURY, WENDY  
; APPLICANT: STAPLETON, JACK  
; APPLICANT: ROLLER, RICHARD  
; APPLICANT: STINSKI, MARK  
; APPLICANT: MCCRAY, PAUL B.  
; APPLICANT: TACK, BRIAN  
; TITLE OF INVENTION: NOVEL ANTIVIRAL ACTIVITIES OF PRIMATE THETA DEFENSINS AND MAMMAL  
; FILE REFERENCE: IOWA:035JS  
; CURRENT APPLICATION NUMBER: US/10/721,839  
; CURRENT FILING DATE: 2003-11-25  
; PRIOR APPLICATION NUMBER: US/10/060,102  
; PRIOR FILING DATE: 2002-02-22  
; PRIOR APPLICATION NUMBER: 60/309,368  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: 60/265,270  
; PRIOR FILING DATE: 2001-01-30  
; NUMBER OF SEQ ID NOS: 32  
; SOFTWARE: Patentin Ver. 2.1  
; SEQ ID NO 30  
; LENGTH: 18  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Peptide  
US-10-721-839-30

Query Match 88.4%; Score 99; DB 15; Length 18;  
Best Local Similarity 83.3%; Pred. No. 9.7e-05;  
Matches 15; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 GVCRCRCRGVCRCLCR 18  
|:|||||:|

**THIS PAGE BLANK (USP 107)**

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 14:00:51 ; Search time 26 Seconds  
(without alignments)  
66.612 Million cell updates/sec

Title: US-10-009-317A-33  
Perfect score: 112  
Sequence: 1 GVCRCCLRGVCRCCLRR 18  
Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues  
Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000  
Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR 79:.\*  
1: PIR1:.\*  
2: PIR2:.\*  
3: PIR3:.\*  
4: PIR4:.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	80	71.4	18	2 C59089	theta defensin-1 -
2	60	53.6	76	2 B59089	theta defensin 1b
3	58	51.8	188	2 T15651	hypothetical prote
4	57	50.9	164	2 T24272	hypothetical prote
5	53.5	47.8	419	2 S69207	vascular endotheli
6	52.5	46.9	1131	2 T15617	hypothetical prote
7	52	46.4	152	2 T18975	hypothetical prote
8	51	45.5	76	2 A59089	theta defensin 1a
9	51	45.5	85	2 T48125	hypothetical prote
10	50.5	45.1	582	2 B45878	hypothetical prote
11	50	44.6	131	2 S50807	probable membrane
12	49.5	44.2	248	2 E71602	probable integral
13	49	43.8	476	2 JC5042	G protein-coupled
14	48	42.9	290	2 G72858	AcOrf-70 protein -
15	48	42.9	303	2 B70554	hypothetical prote
16	48	42.9	1217	1 EGM5MG	epidermal growth f
17	47.5	42.4	285	2 A41116	transcription fact
18	47	42.0	1700	2 S08167	Balbani ring 3 pr
19	47	42.0	2206	1 GNNY21	genome polyprotein
20	47	42.0	2910	2 T42214	otogelin - mouse
21	46.5	41.5	77	2 T48725	Q300 protein - mou
22	46.5	41.5	286	2 T46871	C-8 sterol isomera
23	46.5	41.5	835	2 JP0076	nel protein - chic
24	46	41.1	53	2 S29214	neurotoxin Tx2 - s
25	46	41.1	79	1 LNP61	pulmonary surfacta
26	46	41.1	94	2 C37057	fibronectin recept
27	46	41.1	128	2 D72481	hypothetical prote
28	46	41.1	302	2 A25854	chloramphenicol re
29	46	41.1	321	2 H90942	probable diogenase

30	46	41.1	321	2 C64941	probable dioxygena
31	46	41.1	321	2 D85791	probable diogenase
32	46	41.1	484	2 C82426	cobyrinic acid synth
33	46	41.1	1133	1 EGRT	epidermal growth f
34	46	41.1	1353	1 JH0675	restricetin precurs
35	45.5	40.6	83	2 S07405	proteinase inhibit
36	45.5	40.6	94	2 JC2225	Bowman-Birk protei
37	45.5	40.6	103	1 T15YC2	proteinase inhibit
38	45.5	40.6	532	2 T28784	hypothetical prote
39	45	40.2	95	2 S02186	hypothetical prote
40	45	40.2	321	2 AE0304	probable dioxygena
41	45	40.2	494	2 C70940	probable cobQ prot
42	45	40.2	602	2 H86468	protein Fl2K21.20
43	45	40.2	798	2 B27079	fibronectin recept
44	45	40.2	2946	2 T15840	hypothetical prote
45	44.5	39.7	118	2 S26689	hypothetical prote

# ALIGNMENTS

## RESULT 1

C59089  
theta defensin-1 - rhesus macaque  
N;Alternate names: RTD-1  
C;Species: Macaca mulatta (rhesus macaque)  
C;Date: 29-Oct-1999 #sequence\_revision 29-Oct-1999 #text\_change 29-Oct-1999  
C;Accession: C59089  
R;Tang, Y.Q.; Yuan, J.; Osapay, G.; Osapay, K.; Tran, D.; Miller, C.J.; Ouellette, A.J.  
Science 286, 498-502, 1999  
A;Title: A cyclic antimicrobial peptide produced in primate leukocytes by the ligation  
A;Reference number: A59089; MUID:99453140; PMID:10521339  
A;Accession: C59089  
A;Status: preliminary  
A;Molecule type: protein  
A;Residues: 1-18 <SEL>  
A;Note: this sequence is cyclically permuted by -6 residues from the sequence presented  
C;Comment: For the two contributing precursor sequences, see PIR:A59089 and PIR:B59089.  
C;Keywords: antibacterial; antibiotic; antifungal; leukocyte; protein splicing  
F;1-9/Region: theta defensin 1a-derived  
F;10-18/Region: theta defensin 1b-derived  
F;1-18/Cross-link: cyclopeptide (Arg-Cys) #status experimental  
F;2-11,4-9,13-18/Disulfide bonds: #status experimental  
F;9-10/Cross-link: cyclopeptide (Cys-Arg) #status experimental

Query Match 71.4%; Score 80; DB 2; Length 18;  
Best Local Similarity 80.0%; Pred. No. 0.0015;  
Matches 12; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 4 RCLCRGVCRCCLRR 18  
||:|||||  
DB 1 RCICTRGFCRCCLRR 15

## RESULT 2

B59089  
theta defensin 1b precursor - rhesus macaque  
C;Species: Macaca mulatta (rhesus macaque)  
C;Date: 29-Oct-1999 #sequence\_revision 29-Oct-1999 #text\_change 09-Jul-2004  
C;Accession: B59089  
R;Tang, Y.Q.; Yuan, J.; Osapay, G.; Osapay, K.; Tran, D.; Miller, C.J.; Ouellette, A.J.  
Science 286, 498-502, 1999  
A;Title: A cyclic antimicrobial peptide produced in primate leukocytes by the ligation  
A;Reference number: A59089; MUID:99453140; PMID:10521339  
A;Accession: B59089  
A;Status: preliminary  
A;Molecule type: mRNA  
A;Residues: 1-76 <TAN>  
A;Cross-references: UNIPROT:P82271; GB:AF191101; NID:G6137229; PIDN:AAF04390.1; PID:G61  
C;Comment: For the complete mature sequence, see PIR:C59089.  
C;Superfamily: mammalian defensin  
C;Keywords: antibacterial; antibiotic; antifungal; leukocyte; protein splicing  
F;1-20/Domain: signal sequence #status predicted <SIG>





Db 65 RCICTRGFCRL 76

RESULT 9

T48125

hypothetical protein F16W2.210 - Arabidopsis thaliana

C/Species: Arabidopsis thaliana (mouse-ear cress)

C/Date: 20-Apr-2000 #sequence\_revision 20-Apr-2000 #text\_change 09-Jul-2004

C/Accession: T48125

R/Rieger, M.; Mueller-Auer, S.; Zipp, M.; Schaefer, M.; Mewes, H.W.; Rudd, S.; Lemcke, submitted to the Protein Sequence Database, April 2000

A/Reference number: 224459

A/Accession: T48125

A/Status: preliminary

A/Molecule type: DNA

A/Residues: 1-85 <RIE>

A/Cross-references: UNIPROT:Q9M1V4; EMBL:AL138648

A/Experimental source: cultivar Columbia; BAC clone F16W2

C/Genetics:

A/Map position: 3

A/Introns: 20/1

A/Note: F16W2.210

Query Match 45.5%; Score 51; DB 2; Length 85;

Best Local Similarity 44.4%; Pred. No. 9.6;

Matches 12; Conservative 2; Mismatches 3; Indels 10; Gaps 2;

QY 1 GVCRCCLCR-----RGVC-----RCCLCR 17

Db 52 GLCDNLCKYRGATSGVCVSDPHRCLCR 78

RESULT 10

B45878

hypothetical protein 2 - mouse

C/Species: Mus musculus (house mouse)

C/Date: 30-Sep-1993 #sequence\_revision 30-Sep-1993 #text\_change 09-Jul-2004

C/Accession: B45878

R/Ravetnick, N.; Tsai, J.Y.; Fox, H.; Pilder, S.H.; Silver, L.M. Immunogenetics 30, 34-41, 1989

A/Title: A mouse chromosome 17 gene encodes a testes-specific transcript with unusual A/Reference number: A45878; MUID:89307395; PMID:2568335

A/Accession: B45878

A/Status: preliminary; not compared with conceptual translation

A/Molecule type: mRNA

A/Residues: 1-582 <SAR>

A/Cross-references: UNIPROT:Q62295; GB:M28821

A/Note: this sequence has been corrected in Immunogenetics 31, 283-284 (1990)

C/Superfamily: mouse hypothetical protein 2

Query Match 45.1%; Score 50.5; DB 2; Length 582;

Best Local Similarity 56.2%; Pred. No. 37;

Matches 9; Conservative 2; Mismatches 4; Indels 1; Gaps 1;

QY 2 VCRCLCRRGVCRCCLCR 17

Db 71 VCSCMCVY-VCVCVCR 85

RESULT 11

S50807

probable membrane protein YJL064w - yeast (Saccharomyces cerevisiae)

N/Alternate names: hypothetical protein HRC131; hypothetical protein J1120

C/Species: Saccharomyces cerevisiae

C/Date: 13-Jan-1995 #sequence\_revision 08-Sep-1995 #text\_change 09-Jul-2004

C/Accession: S50807; S47126; S56838

R/Vandenbol, M.; Durand, P.; Dion, C.; Portetelle, D.; Hilger, F. Yeast 11, 57-60, 1995

A/Title: Sequence of a 17.1 kb DNA fragment from chromosome X of Saccharomyces cerevisiae

A/Reference number: S50798; MUID:95282514; PMID:7762302

A/Accession: S50807

A/Status: nucleic acid sequence not shown; translation not shown

A/Molecule type: DNA

A;Residues: 1-131 <VAN>  
A;Cross-references: UNIPROT:P47038; EMBL:Z34288; NID:g498992; PIDN:CAA84058.1; PID:g49900  
A;Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1994  
R;Vandenbol, M.; Durand, P.; Dion, C.; Portetelle, D.; Hilger, F.  
submitted to the EMBL Data Library, June 1994  
A;Description: Sequence analysis of a 17.1 kb DNA fragment from chromosome X of *Saccharomyces cerevisiae*  
A;Reference number: S47117  
A;Accession: S47126  
A;Molecule type: DNA  
A;Residues: 1-131 <VAN>  
A;Cross-references: EMBL:Z34288; NID:g498992; PID:g499002  
R;Vandenbol, M.; Durand, P.; Portetelle, D.; Hilger, F.  
submitted to the Protein Sequence Database, September 1995  
A;Reference number: S56835  
A;Accession: S56838  
A;Molecule type: DNA  
A;Residues: 1-131 <POH>  
A;Cross-references: EMBL:Z49340; NID:g1008212; PID:g1008214; MIPS:YJL064w  
C;Genetics:  
A;Cross-references: SGD:S0003600  
A;Map position: 10L  
C;Superfamily: Saccharomycetes probable membrane protein YJL064w  
C;Keywords: transmembrane protein

Query Match 44.6%; Score 50; DB 2; Length 131;  
Best Local Similarity 52.9%; Pred. No. 17;  
Matches 9; Conservative 0; Mismatches 4; Indels 4; Gaps 1;

QY 1 GVCRLCRRGVCRLCRR 17  
Db 55 GTCCCC---CCCLCRR 67

RESULT 12  
E71602  
probable integral membrane protein PFB0950w - malaria parasite (Plasmodium falciparum)  
C;Species: Plasmodium falciparum  
C;Date: 13-Nov-1998 #sequence\_revision 13-Nov-1998 #text\_change 09-Jul-2004  
C;Accession: E71602  
R;Gardner, M.J.; Tettelin, H.; Carucci, D.J.; Cummings, L.M.; Aravind, L.; Koonin, E.V.;  
; Pertea, M.; Salzberg, S.; Zhou, L.; Sutton, G.G.; Clayton, R.; White, O.; Smith, H.O.  
Science 282, 1126-1132, 1998  
A;Title: Chromosome 2 sequence of the human malaria parasite *Plasmodium falciparum*.  
A;Reference number: A71600; MUID:99021743; PMID:9804551  
A;Accession: E71602  
A;Status: preliminary; nucleic acid sequence not shown; translation not shown  
A;Molecule type: DNA  
A;Residues: 1-248 <GAR>  
A;Cross-references: UNIPROT:O96282; GB:AE001428; GB:AE001362; NID:g3845316; PIDN:AACT197  
A;Experimental source: clone 3D7  
C;Genetics:  
A;Gene: PFB0950w

Query Match 44.2%; Score 49.5; DB 2; Length 248;  
Best Local Similarity 46.7%; Pred. No. 28;  
Matches 7; Conservative 2; Mismatches 3; Indels 3; Gaps 1;

QY 2 VCRCLCRRGVCRLC 16  
Db 166 ICTCTC---ICSLC 177

RESULT 13  
JC5042  
G protein-coupled receptor - barnacle  
C;Species: Balanus amphitrite (barnacle)  
C;Date: 21-Jan-1997 #sequence\_revision 21-Jan-1997 #text\_change 09-Jul-2004  
C;Accession: JC5042  
R;Isoai, A.; Kawahara, H.; Okazaki, Y.; Shizuri, Y.  
Gene 175, 95-100, 1996  
A;Title: Molecular cloning of a new member of the putative G protein-coupled receptor gene  
A;Reference number: JC5042; MUID:97074655; PMID:8917082  
A;Accession: JC5042

A;Molecule type: DNA  
A;Residues: 1-476 <ISO>  
A;Cross-references: UNIPROT:Q93126; DDBJ:D78363; NID:g1514430; PIDN:BAA11375.1; PID:g15151  
C;Superfamily: vertebrate rhodopsin  
C;Keywords: G protein-coupled receptor; glycoprotein; phosphoprotein; transmembrane protein  
F;34-57/Domain: transmembrane #status predicted <TM1>  
F;71-93/Domain: transmembrane #status predicted <TM2>  
F;107-129/Domain: transmembrane #status predicted <TM3>  
F;126-134/Region: G protein-binding #status predicted  
F;148-172/Domain: transmembrane #status predicted <TM4>  
F;199-222/Domain: transmembrane #status predicted <TM5>  
F;377-398/Domain: transmembrane #status predicted <TM6>  
F;407-430/Domain: transmembrane #status predicted <TM7>  
F;13.17/Binding site: carbohydrate (Asn) (covalent) #status predicted  
F;230.240.250.260/Binding site: phosphate (Thr) (covalent) (by protein kinase C) #status predicted  
F;355/Binding site: phosphate (Ser) (covalent) (by cAMP-dependent kinase) #status predicted

Query Match 43.8%; Score 49; DB 2; Length 476;  
Best Local Similarity 47.1%; Pred. No. 49;  
Matches 8; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 2 VCRCLCRRGVCRLCRR 18  
Db 442 LCKVCRCRGAMRRFR 458

RESULT 14  
G72858  
AcOrf-70 protein - Autographa californica nuclear polyhedrosis virus  
C;Species: Autographa californica nuclear polyhedrosis virus, AcMNPV  
A;Note: dsDNA virus  
C;Date: 12-Nov-1999 #sequence\_revision 12-Nov-1999 #text\_change 09-Jul-2004  
C;Accession: G72858  
R;Ayres, M.D.; Howard, S.C.; Kuzio, J.; Lopez-Ferber, M.; Possee, R.D.  
Virology 202, 586-605, 1994  
A;Title: The complete DNA sequence of Autographa californica nuclear polyhedrosis virus  
A;Reference number: A72850; MUID:94303173; PMID:8030224  
A;Accession: G72858  
A;Status: preliminary  
A;Molecule type: DNA  
A;Residues: 1-290 <AYR>  
A;Cross-references: UNIPROT:P41470; GB:L22858; NID:g510708; PIDN:AAA66700.1; PID:g55913  
C;Genetics:  
A;Gene: AcOrf-70

Query Match 42.9%; Score 48; DB 2; Length 290;  
Best Local Similarity 52.9%; Pred. No. 47;  
Matches 9; Conservative 3; Mismatches 3; Indels 2; Gaps 2;

QY 4 RCLC-RRGV-CRCLCRR 18  
Db 228 QCFCPRQGYKCEICRR 244

RESULT 15  
B70554  
hypothetical protein Rv1145 - Mycobacterium tuberculosis (strain H37RV)  
C;Species: Mycobacterium tuberculosis  
C;Date: 17-Jul-1998 #sequence\_revision 17-Jul-1998 #text\_change 09-Jul-2004  
C;Accession: B70554  
R;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S.;  
Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holroyd, S.;  
Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.  
Nature 393, 537-544, 1998  
A;Authors: Squares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.  
A;Title: Deciphering the biology of *Mycobacterium tuberculosis* from the complete genome  
A;Reference number: A70500; MUID:98295987; PMID:9634230  
A;Accession: B70554  
A;Status: preliminary; nucleic acid sequence not shown; translation not shown  
A;Molecule type: DNA  
A;Residues: 1-303 <COL>  
A;Cross-references: UNIPROT:O06545; GB:Z95584; GB:AL123456; NID:g3261774; PIDN:CAB09033  
A;Experimental source: strain H37RV

C:Genetics:  
A:Gene: RV1145

Query Match 42.9%; Score 48; DB 2; Length 303;  
Best Local Similarity 60.0%; Pred. No. 48;  
Matches 9; Conservative 0; Mismatches 6; Indels 0; Gaps 0;

Qy 4 RCLCRGVCRCRCRR 18  
|||  
Db 281 RCCFRSPWRCRCRR 295  
|||

Search completed: April 28, 2005, 14:22:38  
Job time : 27 secs

**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: April 28, 2005, 13:58:25 ; Search time 114 Seconds  
(without alignments)  
80.855 Million cell updates/sec

Title: US-10-009-317A-33  
Perfect score: 112  
Sequence: 1 GVCRLCRRGVCRCLRR 18

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Uniprot\_03.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	60.5	54.0	243	Q6ZMP3	Q6ZMP3 homo sapien
2	60	53.6	76	TD1B MACMU	P82271 macaca mula
3	60	53.6	168	Q9D912	Q9D912 mus musculus
4	58	51.8	168	Q6P8T4	Q6P8T4 mus musculus
5	58	51.8	168	Q8CH20	Q8CH20 mus musculus
6	58	51.8	173	Q9D4K2	Q9D4K2 mus musculus
7	58	51.8	188	Q18238	Q18238 caenorhabdi
8	57	50.9	164	Q22048	Q22048 caenorhabdi
9	57	50.9	166	Q950Y1	Q950Y1 caenorhabdi
10	57	50.9	197	Q17641	Q17641 caenorhabdi
11	57	50.9	274	Q949G1	Q949G1 oryza sativ
12	56.5	50.4	190	Q9U123	Q9U123 homo sapien
13	56.5	50.4	413	Q69566	Q69566 human herpe
14	55.5	49.6	512	Q6RY99	Q6RY99 rattus norv
15	55	49.1	201	Q6ZQS2	Q6ZQS2 homo sapien
16	54.5	48.7	212	Q7PDW6	Q7PDW6 anopheles g
17	54	48.2	212	Q7YVW7	Q7YVW7 caenorhabdi
18	54	48.2	905	Q8IH66	Q8IH66 drosophila
19	54	48.2	905	Q8IMJ2	Q8IMJ2 drosophila
20	53.5	47.8	379	Q7SXV0	Q7SXV0 brachydanio
21	53.5	47.8	418	Q57352	Q57352 coturnix co
22	53.5	47.8	419	1 VEGC HUMAN	P49767 homo sapien
23	53.5	47.8	419	Q6FH59	Q6FH59 homo sapien
24	53	47.3	307	Q9H9U3	Q9H9U3 homo sapien
25	53	47.3	881	Q9W0A0	Q9W0A0 drosophila
26	53	47.3	1823	Q7PRP5	Q7PRP5 anopheles g
27	52.5	46.9	101	Q7YU02	Q7YU02 trypanosoma
28	52.5	46.9	118	Q8C9N2	Q8C9N2 mus musculus
29	52.5	46.9	133	Q6RSG9	Q6RSG9 mus musculus
30	52.5	46.9	146	Q8BPC0	Q8BPC0 mus musculus
31	52.5	46.9	160	Q9H654	Q9H654 homo sapien

32	52.5	46.9	462	2	Q6GQP2	Q6GQP2 brachydanio
33	52	46.4	152	2	Q9XVX3	Q9XVX3 caenorhabdi
34	52	46.4	1506	2	Q8IRL0	Q8IRL0 drosophila
35	52	46.4	23015	2	Q8IQ18	Q8IQ18 drosophila
36	51.5	46.0	83	2	Q7PG24	Q7PG24 anopheles g
37	51.5	46.0	107	2	Q8BW14	Q8BW14 mus musculus
38	51.5	46.0	134	2	Q8N962	Q8N962 homo sapien
39	51.5	46.0	2327	2	Q9IBG7	Q9IBG7 xenopus lae
40	51	45.5	76	1	TD1A MACMU	P82270 macaca mula
41	51	45.5	85	2	Q9M1V4	Q9M1V4 arabidopsis
42	51	45.5	133	2	Q8HXJ6	Q8HXJ6 macaca fasc
43	51	45.5	628	2	Q8W6J2	Q8W6J2 sinorhizobi
44	50.5	45.1	94	2	Q8COH3	Q8COH3 mus musculus
45	50.5	45.1	96	2	Q6JMQ5	Q6JMQ5 burkholderi

## ALIGNMENTS

### RESULT 1

Q6ZMP3	PRELIMINARY;	PRT;	243 AA.
ID	Q6ZMP3		
AC	Q6ZMP3;		
DT	05-JUL-2004 (TREMBlrel. 27, Created)		
DT	05-JUL-2004 (TREMBlrel. 27, Last sequence update)		
DT	05-JUL-2004 (TREMBlrel. 27, Last annotation update)		
DE	Hypothetical protein FLJ16784.		
OS	Homo sapiens (Human)		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.		
OX	NCBI_TaxID=9606;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RC	TISSUE=Tongue;		
RA	Tanigami A., Fujiwara T., Shibahara T., Goto Y., Hirao M., Shimizu F.,		
RA	Wakabe H., Ono T., Hishigaki H., Watanabe T., Ozaki K., Sugiyama T.,		
RA	Irie K., Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J.,		
RA	Isono Y., Kawai-Hio Y., Saito K., Nishikawa T., Kimura K.,		
RA	Yamashita H., Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K.,		
RA	Wagatsuna M., Murakawa K., Kanehori K., Takahashi-Fujii A., Oshima A.,		
RA	Sugiyama A., Kawakami B., Suzuki Y., Sugano S., Nagahara K.,		
RA	Masuko Y., Nagai K., Isogai T.,		
RL	Submitted (MAR-2004) to the EMBL/GenBank/DBJ databases.		
DR	EMBL; AK131548; BAD18682.1; -		
DR	HSSP; P09215; 1BDY.		
DR	GO; GO:0016301; P-kinase activity; IEA.		
DR	GO; GO:0007242; P.intracellular signaling cascade; IEA.		
DR	InterPro; IPR008973; C2 CaLB.		
DR	InterPro; IPR002219; DAG_PE-bind.		
DR	Pfam; PF00130; C1.1; 1.		
DR	PRINTS; PRO0008; DAGPEDOMAIN.		
DR	SMART; SM00109; C1; 1.		
DR	PROSITE; PS00081; DAG_PE_BIND_DOM_2; 1.		
KW	Kinase.		
SQ	SEQUENCE 243 AA; 27566 MW; 23D41825EB9F782D CRC64;		

Query Match 54.0%; Score 60.5; DB 2; Length 243;  
Best Local Similarity 66.7%; Pred. No. 3.1;  
Matches 10; Conservative 2; Mismatches 0; Indels 3; Gaps 1;

QY	2	VCRCLCRRGVCRCLC 16
DB	177	VQCQLC---VCQCLC 188

### RESULT 2

TD1B MACMU	STANDARD;	PRT;	76 AA.
ID	TD1B MACMU		
AC	P82271;		
DT	25-OCT-2004 (Rel. 45, Created)		
DT	25-OCT-2004 (Rel. 45, Last sequence update)		
DT	25-OCT-2004 (Rel. 45, Last annotation update)		
DE	Theta defensin-1, subunit B precursor (RTD-1b) (Demidefensin 1).		



```
SQ SEQUENCE 168 AA; 18931 MW; 7A2BD279612A5E94 CRC64;
Query Match 53.6%; Score 60; DB 2; Length 168;
Best Local Similarity 56.2%; Pred. No. 2.6;
Matches 9; Conservative 0; Mismatches 7; Indels 0; Gaps 0;

QY 3 CRCLRRGVCRCLCRR 18
Db 66 CRCCCHCRCCRCR 81

RESULT 4
ID Q6P8T4 PRELIMINARY; PRT; 168 AA.
AC Q6P8T4;
DT 05-JUL-2004 (TrEMBLrel. 27, Created)
DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DE 4931420D14Rik protein.
GN Name=4931420D14Rik;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RA Xu X., Bai X., Silvius D., Escalier D., McFarland L., Xu P.-X.;
RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
DR MBL; AF463502; AAO15675.1; -
DR MGD; MGI:1913992; 4931420D14Rik.
SQ SEQUENCE 168 AA; 18957 MW; 8F30D3D27B9BF595 CRC64;

Query Match 51.8%; Score 58; DB 2; Length 168;
Best Local Similarity 56.2%; Pred. No. 4.6;
Matches 9; Conservative 0; Mismatches 7; Indels 0; Gaps 0;

QY 3 CRCLRRGVCRCLCRR 18
Db 66 CRCCCHCRCCRCR 81

RESULT 6
ID Q9D4K2 PRELIMINARY; PRT; 173 AA.
AC Q9D4K2;
DT 01-JUN-2001 (TrEMBLrel. 17, Created)
DT 01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
DE Mus musculus adult male testis cDNA, RIKEN full-length enriched
DE library, clone:4931420D14 product:hypothetical Cysteine-rich region
DE containing protein, full insert sequence.
GN Name=4931420D14Rik;
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RX MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
RA Carninci P., Hayashizaki Y.;
RT "High-efficiency full-length cDNA cloning.";
RL Meth. Enzymol. 303:19-44(1999).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RX MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RA RIKEN FANTOM Consortium;
RT "Functional annotation of a full-length mouse cDNA collection.";
RL Nature 409:685-690(2001).
RN [3]
RP SEQUENCE FROM N.A.
RC The FANTOM Consortium.
RA the RIKEN Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs.";
RL Nature 420:563-573(2002).
RN [4]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RX MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
RA Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
RA Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
RT "Normalization and subtraction of cap-trapper-selected cDNAs to
RT prepare full-length cDNA libraries for rapid discovery of new genes.";
RL Genome Res. 10:1617-1630(2000).
RN [5]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Testis;
RX MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600;
RA
```

RA Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,  
 RA Konno H., Akiyama J., Nishi K., Kitsuunai T., Taishiro H., Itoh M.,  
 RA Sumi N., Ishii Y., Nakamura S., Harada M., Nishine T., Harada A.,  
 RA Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,  
 RA Fujiwaka S., Inoue K., Togawa Y., Izawa M., Ohara E., Watahiki M.,  
 RA Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J.,  
 RA Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.,  
 RT "RIKEN integrated sequence analysis (RISA) system-384-format  
 RT sequencing pipeline with 384 multicapillary sequencer.",  
 RN Genome Res. 10:1757-1771(2000).  
 RN [6]  
 RN SEQUENCE FROM N.A.  
 RC STRAIN=C57BL/6J; TISSUE=Testis;  
 RA Adachi J., Aizawa K., Akahira S., Akimura T., Arai A., Aono H.,  
 RA Arakawa T., Bono H., Carninci P., Fukuda S., Fukunishi Y., Furuno M.,  
 RA Hanaoka T., Hara A., Hayata N., Hiramoto K., Hiraoka T., Hori F.,  
 RA Imotani K., Ishii Y., Itoh M., Izawa M., Kasukawa T., Kato H.,  
 RA Kawai J., Kojima Y., Konno H., Kouda M., Koya S., Kurihara C.,  
 RA Matsuyama T., Miyazaki A., Nishi K., Nomura K., Numazaki R., Ohno M.,  
 RA Okazaki Y., Okido T., Owa C., Saito H., Saito R., Sakai C., Sakai K.,  
 RA Sano H., Sasaki D., Shibata K., Shibata Y., Shingawa A., Shiraki T.,  
 RA Sogabe Y., Suzuki H., Tagami M., Tagawa A., Takahashi F., Tanaka T.,  
 RA Tejima Y., Toya T., Yamamura T., Yasunishi A., Yoshida K., Yoshino M.,  
 RA Muramatsu M., Hayashizaki Y.,  
 RL Submitted (JUL-2000) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AK016467, BAB30253.1; -  
 DR MGD; MGI:1913992; 4931420D14Rik.  
 KW Hypothetical protein.  
 SQ SEQUENCE 173 AA; 19581 MW; 147B6F155AC29FDF CRC64;

Query Match 51.8%; Score 58; DB 2; Length 173;  
 Best Local Similarity 56.2%; Pred. No. 4.7; Indels 0; Gaps 0;  
 Matches 9; Conservative 0; Mismatches 7;

QY 3 CRCLCRRGVCRCRCR 18  
 |||||  
 DB 66 CRCCVCRCRCRCR 81

RESULT 7  
 Q18238 PRELIMINARY; PRT; 188 AA.  
 AC Q18238;  
 DT 01-NOV-1996 (TrEMBLrel. 01, Created)  
 DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 DE Hypothetical protein C27A2.5.  
 GN Names=C27A2.5; ORFNames=C27A2.5;  
 OS Caenorhabditis elegans.  
 OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;  
 OC Rhabditidae; Peloderinae; Caenorhabditis.  
 OX NCBI\_TaxID=6239;  
 RN [1]  
 RN SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RX MEDLINE=90069613; PubMed=9851916;  
 RG WormBase Consortium;  
 RT "Genome sequence of the nematode C. elegans: a platform for  
 RT investigating biology. The C. elegans Sequencing Consortium.",  
 RN Science 282:2012-2018(1998).  
 RN [2]  
 RN SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Nhan M.;  
 RT "The sequence of C. elegans cosmid C27A2.";  
 RN Submitted (MAY-1996) to the EMBL/GenBank/DBJ databases.  
 RN [3]  
 RN SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Waterston R.;  
 RL Submitted (NOV-2002) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RN SEQUENCE FROM N.A.

RC STRAIN=Bristol N2;  
 RA Wilson R.;  
 RL Submitted (JUN-2004) to the EMBL/GenBank/DBJ databases.  
 RN [5]  
 RN SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RG WormBase Consortium;  
 RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U58760; AAK31463.1; -  
 DR FIR; T15651; T15651.  
 DR HSSP; P10968; 2CWG.  
 DR IntAct; Q18238; -  
 DR WormBase; WBGene00016153; C27A2.5.  
 DR WormPep; C27A2.5; CE04105.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005952; P:defense response; IEA.  
 DR GO; GO:0009613; P:response to pest, pathogen or parasite; IEA.  
 DR InterPro; IPR001450; 4Fe4S ferredoxin.  
 DR InterPro; IPR006081; Defensin\_alpha.  
 DR InterPro; IPR001007; VWF\_C.  
 DR PROSITE; PS00198; 4FE4S FERREDOXIN; UNKNOWN\_1.  
 DR PROSITE; PS00269; DEFENSIN; 1.  
 DR PROSITE; PS01208; VWF\_C\_1; UNKNOWN\_1.  
 KW Hypothetical protein.  
 SQ SEQUENCE 188 AA; 18878 MW; 0C5D0DC5CABE0C4B CRC64;

Query Match 51.8%; Score 58; DB 2; Length 188;  
 Best Local Similarity 55.8%; Pred. No. 5.1;  
 Matches 10; Conservative 0; Mismatches 8; Indels 0; Gaps 0;

QY 1 GVCRCRCRCRGVCRCRCR 18  
 |||||  
 DB 81 GCGCGCCCRPKCCCCRR 98

RESULT 8  
 Q22048 PRELIMINARY; PRT; 164 AA.  
 AC Q22048;  
 DT 01-NOV-1996 (TrEMBLrel. 01, Created)  
 DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
 DE Hypothetical protein T01B7.8.  
 GN OSFNames=T01B7.8;  
 OS Caenorhabditis elegans.  
 OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;  
 OC Rhabditidae; Peloderinae; Caenorhabditis.  
 OX NCBI\_TaxID=6239;  
 RN [1]  
 RN SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RX MEDLINE=99069613; PubMed=9851916;  
 RA none;  
 RT "Genome sequence of the nematode C. elegans: A platform for  
 RT investigating biology.",  
 RN Science 282:2012-2018(1998).  
 RN [2]  
 RN SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Sims M.A.;  
 RL Submitted (OCT-1995) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; Z66499; CAA91301.1; -  
 DR FIR; T24272; T24272.  
 DR HSSP; P10969; 1K7V.  
 DR IntAct; Q22048; -  
 DR WormBase; WBGene00011313; T01B7.8.  
 DR WormPep; T01B7.8; CE03592.  
 DR InterPro; IPR001450; 4Fe4S ferredoxin.  
 DR InterPro; IPR006081; Defensin\_alpha.  
 DR InterPro; IPR006209; EGF\_like.  
 DR InterPro; IPR001007; VWF\_C.  
 DR PROSITE; PS00198; 4FE4S FERREDOXIN; UNKNOWN\_1.  
 DR PROSITE; PS00269; DEFENSIN; UNKNOWN\_1.



DR PROSITE; PS00022; EGF\_1; UNKNOWN\_1.  
 DR PROSITE; PS01208; VWFC\_1; UNKNOWN\_1.  
 KW Hypothetical protein.  
 SQ SEQUENCE 164 AA; 16499 MW; C002D48D36C9FCED CRC64;

Query Match 50.9%; Score 57; DB 2; Length 164;  
 Best Local Similarity 55.6%; Pred. No. 6;  
 Matches 10; Conservative 0; Mismatches 8; Indels 0; Gaps 0;

QY 1 GVCRCCLRRGVCRCLCRR 18  
 | | | | | | | | | |  
 Db 80 GCGGCCCCPRCCCCRR 97

## RESULT 9

Q95QY1 PRELIMINARY; PRT; 166 AA.  
 AC Q95QY1;  
 DT 01-DEC-2001 (T-EMBLrel. 19, Created)  
 DT 01-DEC-2001 (T-EMBLrel. 19, Last sequence update)  
 DT 01-MAR-2004 (T-EMBLrel. 26, Last annotation update)  
 DE Hypothetical protein C04G6.10.  
 GN Name=C04G6.10; ORFNames=C04G6.10;  
 OS Caenorhabditis elegans.  
 OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;  
 OC Rhabditidae; Peloderinae; Caenorhabditis.  
 OX NCBI\_TaxID=6239;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RX MEDLINE=99089613; PubMed=9851916;  
 RG WormBase Consortium;  
 RT "Genome sequence of the nematode C. elegans: a platform for  
 RT investigating biology. The C. elegans Sequencing Consortium.";  
 RL Science 282:2012-2018(1998).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Anderson K.; Chisoe S.;  
 RT "The sequence of C. elegans cosmid C04G6.";  
 RL Submitted (APR-1996) to the EMBL/GenBank/DBJ databases.  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Waterston R.;  
 RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Wilson R.;  
 RL Submitted (JUL-2004) to the EMBL/GenBank/DBJ databases.  
 RN [5]

RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Waterston R.;  
 RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Wilson R.;  
 RL Submitted (JUL-2004) to the EMBL/GenBank/DBJ databases.  
 RN [5]

RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RG WormBase Consortium;  
 RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U55854; AAK68158.1; --  
 DR HSP; P10969; IWGT.  
 DR WormBase; WEGene00015458; C04G6.10.  
 DR InterPro; IPR001450; 4Fe4s\_ferredoxin.  
 DR InterPro; IPR006081; Defensin\_alpha.  
 DR InterPro; IPR006209; EGF like.  
 DR InterPro; IPR001007; VWFC.  
 DR PROSITE; PS00198; 4Fe4s\_FERREDOXIN; UNKNOWN\_1.  
 DR PROSITE; PS00269; DEFENSIN; UNKNOWN\_1.  
 DR PROSITE; PS00022; EGF\_1; UNKNOWN\_1.  
 DR PROSITE; PS01208; VWFC\_1; UNKNOWN\_1.  
 KW Hypothetical protein.  
 SQ SEQUENCE 166 AA; 16971 MW; 9D9D130351BB50F1 CRC64;

Query Match 50.9%; Score 57; DB 2; Length 166;  
 Best Local Similarity 55.6%; Pred. No. 6;

Matches 10; Conservative 0; Mismatches 8; Indels 0; Gaps 0;  
 QY 1 GVCRCCLRRGVCRCLCRR 18  
 | | | | | | | | | |  
 Db 81 GCGGCCCCPRCCCCRR 98

## RESULT 10

Q17641 PRELIMINARY; PRT; 197 AA.  
 AC Q17641;  
 DT 01-NOV-1996 (T-EMBLrel. 01, Created)  
 DT 01-OCT-2001 (T-EMBLrel. 18, Last sequence update)  
 DT 01-MAR-2004 (T-EMBLrel. 26, Last annotation update)  
 DE Hypothetical protein C04G6.7.  
 GN Name=C04G6.7; ORFNames=C04G6.7;  
 OS Caenorhabditis elegans.  
 OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;  
 OC Rhabditidae; Peloderinae; Caenorhabditis.  
 OX NCBI\_TaxID=6239;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RX MEDLINE=99089613; PubMed=9851916;  
 RG WormBase Consortium;  
 RT "Genome sequence of the nematode C. elegans: a platform for  
 RT investigating biology. The C. elegans Sequencing Consortium.";  
 RL Science 282:2012-2018(1998).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Anderson K.; Chisoe S.;  
 RT "The sequence of C. elegans cosmid C04G6.";  
 RL Submitted (APR-1996) to the EMBL/GenBank/DBJ databases.  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Waterston R.;  
 RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Wilson R.;  
 RL Submitted (JUL-2004) to the EMBL/GenBank/DBJ databases.  
 RN [5]

RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Waterston R.;  
 RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RA Wilson R.;  
 RL Submitted (JUL-2004) to the EMBL/GenBank/DBJ databases.  
 RN [5]

RP SEQUENCE FROM N.A.  
 RC STRAIN=Bristol N2;  
 RG WormBase Consortium;  
 RL Submitted (SEP-2004) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U55854; AAK68161.1; --  
 DR HSP; P10969; IWGT.  
 DR WormBase; WEGene00015457; C04G6.7.  
 DR InterPro; IPR001450; 4Fe4s\_ferredoxin.  
 DR InterPro; IPR006081; Defensin\_alpha.  
 DR InterPro; IPR006209; EGF like.  
 DR InterPro; IPR001007; VWFC.  
 DR PROSITE; PS00198; 4Fe4s\_FERREDOXIN; UNKNOWN\_1.  
 DR PROSITE; PS00269; DEFENSIN; UNKNOWN\_1.  
 DR PROSITE; PS00022; EGF\_1; UNKNOWN\_1.  
 DR PROSITE; PS01208; VWFC\_1; UNKNOWN\_1.  
 KW Hypothetical protein.  
 SQ SEQUENCE 197 AA; 20596 MW; FB5F9457BFB9B8AD CRC64;

Query Match 50.9%; Score 57; DB 2; Length 197;  
 Best Local Similarity 55.6%; Pred. No. 7;  
 Matches 10; Conservative 0; Mismatches 8; Indels 0; Gaps 0;

QY 1 GVCRCCLRRGVCRCLCRR 18  
 | | | | | | | | | |  
 Db 82 GCGGCCCCPRCCCCRR 99

```

RESULT 11
Q949G1 PRELIMINARY; PRT; 274 AA.
AC Q949G1;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Hypothetical protein C15ERIPDM.
GN Name=C15ERIPDM;
OS Oryza sativa (Rice).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
OC Ehrhartoideae; Oryzoae; Oryza.
OX NCBI_TaxID=4530;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21329048; PubMed=11435398; DOI=10.1101/gr.GR-1617R;
RA Mayer K., Murphy G., Tarchini R., Wambutt R., Volckaert G., Pohl T.,
RA Duysterhoeft A., Stiekema W., Entian K.D., Terry N., Lemcke K.,
RA Haase D., Hall C.R., van Dodeweerd A.M., Tingey S.V., Mewes H.W.,
RA Bevan M., Bancroft I.;
RT "Conservation of microstructure between a sequenced region of the
RT genome of rice and multiple segments of the genome of Arabidopsis
RT thaliana.";
RL Genome Res. 11:1167-1174(2001).
DR ENBL; AJ307662; CAC39030.1; -.
DR Gramene; Q949G1; -.
KW Hypothetical protein.
SQ SEQUENCE 274 AA; 28657 MW; AB547D9BD5470AE1 CRC64;

Query Match 50.9%; Score 57; DB 2; Length 274;
Best Local Similarity 60.0%; Pred. No. 9.3;
Matches 9; Conservative 0; Mismatches 6; Indels 0; Gaps 0;

QY 4 RCLCRGVCRCRCRR 18
Db 185 RCCCHRGCCRCRAT 199

RESULT 12
Q9UI23 PRELIMINARY; PRT; 190 AA.
AC Q9UI23;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
DE PRO0529.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX TSSUB=Liver;
RA Zhang C., Yu Y., Zhang S., Ouyang S., Luo L., Wei H., Zhou G.,
RA Zhang Y., Liu M., He F.;
RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF111848; AAF16687.1; -.
SQ SEQUENCE 190 AA; 21480 MW; 4B8104A29AA33844 CRC64;

Query Match 50.4%; Score 56.5; DB 2; Length 190;
Best Local Similarity 55.6%; Pred. No. 7.8;
Matches 10; Conservative 2; Mismatches 3; Indels 3; Gaps 1;

QY 2 VCRCLCRG---VCRCLC 16
Db 47 VCLCMCVRGCVSVVCVC 64

RESULT 13
Q69566 PRELIMINARY; PRT; 413 AA.
ID Q69566
AC Q69566;

```

```

DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
DE U88.
GN Name=U88;
OS Human herpesvirus 6.
OC Viruses; dsDNA viruses, no RNA stage; Herpesviridae;
OC Betaherpesvirinae; Roseolovirus.
OX NCBI_TaxID=10368;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90112641; PubMed=2153237;
RA Littler E., Lawrence G., Liu M.Y., Barrell B.G., Arrand J.R.;
RT "Identification, cloning, and expression of the major capsid protein
RT gene of human herpesvirus 6.";
RL J. Virol. 64:714-722(1990).
RN [2]
RP SEQUENCE FROM N.A.
RX STRAIN=U1102;
RX MEDLINE=90080132; PubMed=2152817;
RA Lawrence G.L., Chee M., Craxton M.A., Gompels U.A., Honess R.W.,
RA Barrell B.G.;
RT "Human herpesvirus 6 is closely related to human cytomegalovirus.";
RL J. Virol. 64:287-299(1990).
RN [3]
RP SEQUENCE FROM N.A.
RX STRAIN=U1102;
RX MEDLINE=91226542; PubMed=1851252; DOI=10.1038/351078a0;
RA Thomson B.J., Efsthaliou S., Honess R.W.;
RT "Acquisition of the human adeno-associated virus type-2 rep gene by
RT human herpesvirus type-6.";
RL Nature 351:78-80(1991).
RN [4]
RP SEQUENCE FROM N.A.
RX STRAIN=U1102;
RX MEDLINE=91333007; PubMed=1651403;
RA Teo I.A., Griffin B.E., Jones M.D.;
RT "Characterization of the DNA polymerase gene of human herpesvirus 6.";
RL J. Virol. 65:4670-4680(1991).
RN [5]
RP SEQUENCE FROM N.A.
RX STRAIN=U1102;
RX MEDLINE=91374590; PubMed=1654446;
RA Martin M.E.D., Nicholas J., Thomson B.J., Newman C., Honess R.W.;
RT "Identification of a transactivating function mapping to the putative
RT immediate-early locus of human herpesvirus 6.";
RL J. Virol. 65:5381-5390(1991).
RN [6]
RP SEQUENCE FROM N.A.
RX STRAIN=U1102;
RX MEDLINE=91237802; PubMed=1851860;
RA Chang C.K., Balachandran N.;
RT "Identification, characterization, and sequence analysis of a cDNA
RT encoding a phosphoprotein of human herpesvirus 6.";
RL J. Virol. 65:2884-2894(1991).
RN [7]
RP SEQUENCE FROM N.A.
RX STRAIN=U1102;
RX MEDLINE=92148942; PubMed=1310766;
RA Geng Y., Chandran B., Josephs S.F., Wood C.;
RT "Identification and characterization of a human herpesvirus 6 gene
RT segment that trans activates the human immunodeficiency virus type 1
RT promoter.";
RL J. Virol. 66:1564-1570(1992).
RN [8]
RP SEQUENCE FROM N.A.
RX STRAIN=U1102;
RX MEDLINE=92260671; PubMed=1374813;
RA Neipel F., Eilinger K., Fleckenstein B.;
RT "Gene for the major antigenic structural protein (p100) of human
RT herpesvirus 6.";
RL J. Virol. 66:3918-3924(1992).

```

RN [9]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=92333249; PubMed=1321206;  
 RA Bfstathiou S., Lawrence G.L., Brown C.M., Barrell B.G.;  
 RT "Identification of homologs to the human cytomegalovirus US22 gene  
 family in human herpesvirus-6";  
 RL J. Gen. Virol. 73:1661-1671(1992).  
 RN [10]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=93187613; PubMed=8383182;  
 RA Ellinger K., Neipel F., Foa-Tomasi L., Campadelli-Plume G.,  
 RT Fleckenstein B.;  
 RL "The glycoprotein B homologue of human herpesvirus 6";  
 RN J. Gen. Virol. 74:495-500(1993).  
 RN [11]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=92333248; PubMed=1321205;  
 RA Thomson B.J., Honess R.W.;  
 RT "The right end of the unique region of the genome of human herpesvirus  
 6 U1102 contains a candidate immediate early gene enhancer and a  
 RT homologue of the human cytomegalovirus US22 gene family";  
 RL J. Gen. Virol. 73:1649-1660(1992).  
 RN [12]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=93091236; PubMed=1333836;  
 RA Compels U.A., Carss A.L., Sun N., Arrand J.R.;  
 RT "Infectivity determinants encoded in a conserved gene block of human  
 RT herpesvirus-6";  
 RL DNA Seq. 3:25-39(1992).  
 RN [13]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=94181269; PubMed=8134119;  
 RA Thompson J., Choudhury S., Kashanchi F., Doniger J., Berneman Z.,  
 RT Frenkel N., Rosenthal L.J.;  
 RL "A transforming fragment within the direct repeat region of human  
 RT herpesvirus type 6 that transactivates HIV-1";  
 RL Oncogene 9:1167-1175(1994).  
 RN [14]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=93224882; PubMed=8385692;  
 RA Compels U.A., Carrigan D.R., Carss A.L., Arno J.;  
 RT "Two groups of human herpesvirus 6 identified by sequence analyses of  
 RT laboratory strains and variants from Hodgkin's lymphoma and bone  
 RT marrow transplant patients";  
 RL J. Gen. Virol. 74:613-622(1993).  
 RN [15]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=93323202; PubMed=7687301;  
 RA Pfeiffer B., Berneman Z.N., Neipel F., Chang C.K., Tirwatnapong S.,  
 RT Chandran B.;  
 RL "Identification and mapping of the gene encoding the glycoprotein  
 RT complex gp82-gp105 of human herpesvirus 6 and mapping of the  
 RT neutralizing epitope recognized by monoclonal antibodies";  
 RL J. Virol. 67:4611-4620(1993).  
 RN [16]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=93331710; PubMed=7687803;  
 RA Pellett P.E., Sanchez-Martinez D., Dominguez G., Black J.B., Anton E.,  
 RA Greenmoyer C., Dambaugh T.R.;  
 RT "A strongly immunoreactive virion protein of human herpesvirus 6  
 RT variant B strain 229: identification and characterization of the gene  
 RT and mapping of a variant-specific monoclonal antibody reactive  
 RT epitope";  
 RL Virology 195:521-531(1993).  
 RN [17]

RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=94025598; PubMed=8212582;  
 RA Jones M., Teo I.;  
 RT "Identification and analysis of the transport/capsid assembly protein  
 RT (tp/cap) gene of human herpesvirus-6 (HHV-6)";  
 RL Virology 197:449-454(1993).  
 RN [18]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=93389439; PubMed=8397282;  
 RA Liu D.X., Compels U.A., Nicholas J., Lelliott C.;  
 RT "Identification and expression of the human herpesvirus 6 glycoprotein  
 RT H and interaction with an accessory 40K glycoprotein";  
 RL J. Gen. Virol. 74:1847-1857(1993).  
 RN [19]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=94118404; PubMed=8289364;  
 RA Nicholas J., Martin M.;  
 RT "Nucleotide sequence analysis of a 38.5-kilobase-pair region of the  
 RT genome of human herpesvirus 6 encoding human cytomegalovirus  
 RT immediate-early gene homologs and transactivating functions";  
 RL J. Virol. 68:597-610(1994).  
 RN [20]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=94167865; PubMed=8122364;  
 RA Zhou Y., Chang C.K., Qian G., Chandran B., Wood C.;  
 RT "trans-activation of the HIV promoter by a cDNA and its genomic clones  
 RT of human herpesvirus-6";  
 RL Virology 199:311-322(1994).  
 RN [21]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=95146989; PubMed=7844567;  
 RA Compels U.A., Macaulay H.A.;  
 RT "Characterisation of human telomeric repeat sequences from human  
 RT herpesvirus-6 and relationship to replication";  
 RL J. Gen. Virol. 76:451-458(1995).  
 RN [22]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=94202288; PubMed=8151770;  
 RA Thomson B.J., Dewhurst S., Gray D.;  
 RT "Structure and heterogeneity of the a sequences of human herpesvirus 6  
 RT strain variants U1102 and Z29 and identification of human telomeric  
 RT repeat sequences at the genomic termini";  
 RL J. Virol. 68:3007-3014(1994).  
 RN [23]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=U1102;  
 RX MEDLINE=94202288; PubMed=8151770;  
 RA Thomson B.J., Dewhurst S., Gray D.;  
 RT "Structure and heterogeneity of the a sequences of human herpesvirus 6  
 RT strain variants U1102 and Z29 and identification of human telomeric  
 RT repeat sequences at the genomic termini";  
 RL J. Virol. 68:3007-3014(1994).  
 RN [23]

Query Match 50.4%; Score 56.5; DB 2; Length 413;  
 Best Local Similarity 66.7%; Pred. No. 15;  
 Matches 10; Conservative 0; Mismatches 2; Indels 3; Gaps 1;

QY 2 VCCCLCRGVCRLC 16  
 Db 123 VCCLC---VCCLC 134

RESULT 14  
 Q6RY99 PRELIMINARY; PRT; 512 AA.  
 ID Q6RY99  
 AC Q6RY99;  
 DT 05-JUL-2004 (TrEMBLrel. 27, Created)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last sequence update)  
 DT 05-JUL-2004 (TrEMBLrel. 27, Last annotation update)  
 DE Gamma-hydroxybutyrate receptor.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

Search completed: April 28, 2005, 14:21:42  
Job time : 115 secs